

US EPA ARCHIVE DOCUMENT

Exhibit 1 – CSO Capital Improvement Projects

Muddy Creek Drainage Basin

PROJECT NAME	CSO NUMBERS	PROJECT DESCRIPTION	Substantial Completion of Construction (All dates are Dec 31)
East Branch Muddy Creek CSO HW/DW relocate and/or eliminate	223, 408, 410-416, 541, 654	Provide HW/DW protection or eliminate by separation.	2010
East Branch Muddy Creek Interceptor Relocation – Phase I-A, Interceptor Relocation West	223, 408, 410-416, 541, 654	Relocation of interceptor in River Road from Ohio River to River Road – West.	2009
East Branch Muddy Creek Interceptor Relocation – Phase I-B, Interceptor Relocation East	223, 408, 410-416, 541, 654	Relocation of interceptor in River Road from Ohio River to River Road – East.	2010
East Branch Muddy Creek P.S. Relocation, Phase I-C	223, 408, 410-416, 541, 654	Relocation and replacement of four (4) pump stations.	2010

Exhibit 1 – CSO Capital Improvement Projects

Mill Creek Drainage Basin

PROJECT NAME	CSO NUMBERS	PROJECT DESCRIPTION	Substantial Completion of Construction (All dates are Dec 31)
CSO Modification – Contract A; CSO # 3 – HW/DW	3	Relocation of interceptor for HW/DW protection and installation of separate sanitary sewer line.	2005
CSO Modification – Contract A; CSO # 4 -HW/DW	4	Installation of check valve for backflow prevention during HW/DW conditions.	2005
Kroger's – Spring Grove/Mitchell Sewer Separation – CSO #29 Elimination (Mitchell Avenue); SS# 4674	29	Project will eliminate CSO # 29 by separating area storm inlets through construction of approx. 1200' of 12" sanitary sewer.	2006
Montana Avenue Sewer Separation	89	Project will eliminate CSO # 89 by separating area storm inlets through installation of 300' of 8" sanitary sewer.	2006
Ludlow Run Sewer	109, 151, 162, 165	Replacement of existing interceptor w/ approx. 7700' of 24" – 42" sanitary interceptor sewer.	2007
Scarlet Oaks CSO Improvements, CSO #179, CSO Modification – Contract B	179	Installation of flexible flap gates for HW/DW protection.	2004
Tide gate replacement	419	Replacement of failed flap gate for HW/DW protection.	2004
Tide gate replacement	461	Replacement of failed flap gate for HW/DW protection.	2005

Exhibit 1 – CSO Capital Improvement Projects

Mill Creek Drainage Basin

PROJECT NAME	CSO NUMBERS	PROJECT DESCRIPTION	Substantial Completion of Construction (All dates are Dec 31)
CSO # 450 Elimination (Butler Street)	450	This project will eliminate CSO 450 by connecting two area sanitary laterals to area sanitary sewer. A HW/DW chamber had previously been constructed.	2007
CSO Modification – Contract A; CSO # 451; HW/DW	451	Elimination of CSO 451 by sewer separation.	2005
Eastern Avenue – Collins to Bayou – Express Sewer; Phase 2	456-460, 658	Project will provide for separation of existing area combined sewers.	2005

Exhibit 1 – CSO Capital Improvement Projects

Mill Creek Drainage Basin

PROJECT NAME	CSO NUMBERS	PROJECT DESCRIPTION	Substantial Completion of Construction (All dates are Dec 31)
Ross Run Grit Pit	487	Relocate CSO No. 487 to make CSO more accessible, and install a grit pit to improve maintenance at the Ross Run Interceptor Sewer.	2005
West Third Street Sewer Separation; CSO 437 elimination; Phase 3	437	Elimination of CSO 437 by sewer separation through construction of 350' of 8" sanitary sewer.	2007

Exhibit 1 – CSO Capital Improvement Projects

Little Miami River Drainage Basin

PROJECT NAME	CSO NUMBERS	PROJECT DESCRIPTION	Substantial Completion of Construction (All dates are Dec 31)
CSO HW/DW Regulator Mods-Little Miami Basin; CSO #86 Archer Street; HW/DW	86	Relocation of existing interceptor for HW/DW protection and construction of 170' of separate 8" sewer.	2006
Eastern and Delta Sewer Separation Phase 1 – HW/DW	467-469, 657	Install interceptor sewer from Little Miami WWTP to Eastern Avenue and Congress Avenue (approx. 5500' of 36" pipe). Perform some local sewer separation (approx. 5900' of 8" pipe).	2007
Eastern and Delta Sewer Separation Phase 2 – HW/DW	467-469, 657	Continue 36" interceptor sewer to Widman and Hogue Street near Delta Avenue.	2008
Eastern and Delta Sewer Separation Phase 3 – HW/DW	467-469, 657	Provide local sewer separation east and west of Delta Avenue Pump Station and north and south of Eastern Ave. to allow the relocation of CSO No.s 468 and 469 to provide HW/DW protection.	2009
Beechmont Sluice Gate	472, 656	Project consists of the replacement of multiple sluice/shear gates to provide flood protection to Lunken Airport area during high river stage.	2006
CSO # 557 Elimination	557	Elimination of CSO No. 557 by sewer separation.	2005

Exhibit 1 – Capital Improvement Projects

Sycamore WWTP HRTU

Project Name	Project Description	Substantial Completion of Construction
Sycamore WWTP HRTU	<p>Construction of a ballasted flocculation (or equivalent) high rate treatment unit (“HRTU”) at the WWTP. After completion of all phases of the project, including conventional process capacity upgrades, flows over and above 18 MGD at the Sycamore WWTP would be diverted after fine screening and grit removal to the HRTU up to a maximum of 32 MGD. The first 18 MGD of flow would be treated by conventional primary, secondary and tertiary treatment processes. Flows through the HRTU would be subject to disinfection and post aeration after high rate treatment.</p>	12/31/2006

EXHIBIT 2
PUBLIC PARTICIPATION PLAN
FOR
MSD OF GREATER CINCINNATI LONG TERM CONTROL PLAN UPDATE

I. Introduction

As was the case with the development of MSD's original Long Term Control Plan ("LTCP"), public participation will be an integral part of the process for updating this document. As set out below, the public participation process will be divided into two primary components: 1) the LTCP Update Steering Committee; and 2) Public Outreach.

II. Steering Committee

The purpose of the Steering Committee will be to provide oversight and guidance to MSD throughout the development of the LTCP Update.

A. Membership

The Steering Committee will be comprised of authorized representatives of local organizations whose missions are focused on civic, engineering and environmental issues. Representatives from, at a minimum, the following organizations will be invited to serve on the Steering Committee:

City of Cincinnati - City Engineer; City of Cincinnati - Deputy City Manager;
University of Cincinnati - College of Engineering; City of Cincinnati Health Department;
Hamilton County Public Works; Mill Creek Watershed Council; Hamilton County
Technical Advisory Committee; Hamilton County Health Commissioner; Greater
Cincinnati Chamber of Commerce.

B. Steering Committee Operations

The Steering Committee will provide high level oversight and guidance to the LTCP Update development process. MSD anticipates that the Steering Committee will provide advice to the MSD through an open, collaborative, consensus-based process, without formal votes or a need for excessive procedure. Although MSD hopes that the Steering Committee will work toward a consensus regarding the appropriate approach for MSD to take in addressing various CSO issues, Steering Committee members will be encouraged to offer their independent views on issues - even when those views might diverge from those of the rest of the Committee. MSD also expects that the Steering Committee's focus will be on "big picture" issues relating to the development and selection of remedial alternatives for addressing MSD's CSOs. MSD does not expect that the Steering Committee will provide detailed advice regarding the technical minutiae of LTCP Update development. MSD and its independent consultants can provide assistance regarding the details of technical studies and reports. Although they will not be members of the Steering Committee, Ohio EPA, U.S. EPA and ORSANCO will be invited to attend all Steering Committee meetings.

At the outset of the process, MSD will convene the Steering Committee within three months of the date of entry of the Consent Decree on Combined Sewer Overflows, Wastewater Treatment Plans, and Implementation of Capacity Assurance Program Plan for Sanitary Sewer Overflows ("final Consent Decree"). At that initial session, MSD will present to the Committee a "road map" of the LTCP process. At a minimum, this initial session will cover: 1) the history of MSD's wet weather overflow program; 2) the regulatory context in which the LTCP Update is being prepared; 3) the anticipated scope

of the monitoring and modeling to be performed in developing the LTCP Update; and 4) an overview of the alternatives analysis/remedy selection process. In the latter portion of this session, MSD would take questions and comments from the Steering Committee members regarding the plan for LTCP Update development.

Most of the Steering Committee's activities will be focused on the remedy selection phase of the LTCP Update development process. After completion of the monitoring and modeling portion of LTCP Update development and after a suite of remedial alternatives has been generated, MSD will convene the Steering Committee for a series of meetings. At these sessions, MSD will educate the Steering Committee regarding: 1) the results of the monitoring and modeling programs; 2) the views expressed in the public outreach program discussed below; and 3) the elements of each remedial alternative. Most importantly, MSD will solicit the views of the Steering Committee members regarding the various alternatives. The comments and recommendations of Steering Committee members will be considered by MSD in preparing the LTCP Update that is submitted to USEPA, OEPA and ORSANCO.

III. Public Outreach

There are two aspects of public outreach with respect to the LTCP Update: A) Public Education; and B) Public Involvement.

A. Public Education

The first step in the public outreach process will be an effort to educate the public generally about CSO issues and the range of alternatives available for addressing CSOs. Among the topics that would be covered in the public education process are the following: 1) the history of MSD's wet weather overflow program; 2) the regulatory

context in which the LTCP Update is being prepared; 3) the scope and results of the monitoring and modeling being performed as part of the LTCP Update process; 4) the range of alternatives being considered; and 5) the process involved in the selection of alternatives.

Public education will be achieved through a variety of media. Press releases distributed to print, electronic and broadcast outlets will introduce the CSO issue and invite citizens to contact MSD by letter, phone call or e-mail to request an information packet on the LTCP Update. The press release will also announce the date and time for the initial LTCP Update public workshop. The information packet will contain a short overview of the MSD wet weather overflow program and the final Consent Decree as it relates to wet weather overflows. The packet will also contain a questionnaire that will solicit citizens' views regarding CSO issues. The packet will also invite recipients to visit MSD's website and/or attend the initial public workshop described below.

The information packet will also be mailed to community leaders, including city and township mayors, County Commissioners and civic association presidents. Additionally, copies of the packet will be made available at local libraries, as well as at MSD information booths at various public events such as the Hamilton County Fair and Earth Day.

As mentioned above, MSD will also hold an initial public workshop as part of the Public Education phase of the Public Outreach program. The location and time of the initial public workshop will be chosen to facilitate attendance by the public. This initial workshop will seek to educate members of the public about the history and scope of the MSD CSO program, explain the program's regulatory context and describe the various

categories of remedial alternatives being considered as part of the Long Term Control Plan Update. Technical issues and remedial alternatives will be presented in a simple, concise manner that is understandable to laypersons. The presentations will address progress to date on the LTCP Update, as well as the status of ongoing and planned LTCP Update activities. Charts and maps explaining in layperson's terms various CSO issues will be on display for viewing by the public at the workshop site before, during and after the workshop session.

B. Public Involvement

In the public education packet and at the initial public workshop, the public will be encouraged to submit to MSD comments, complaints, ideas or suggestions that they might have regarding MSD's CSO program. Written comments will be accepted at both regular and electronic mail addresses. MSD will also encourage the public to fill out public comment forms.

A public comment workshop will be a key component of the Public Involvement phase of the Public Participation Program. As was the case with the initial public workshop, the public comment workshop will be publicized with advertisements in major local electronic, broadcast and print media, as well as press releases to these media outlets. The location and time of the public involvement workshop will be chosen to facilitate attendance by the public. The proceedings of the public involvement workshop will be recorded and made available to the public on request.

Although the public involvement workshop will begin with a brief overview of the CSO program information previously provided at the initial workshop, the primary focus of the public involvement workshop will be an open forum to obtain comments

from the public regarding its priorities for the LTCP Update. In particular, the public will be asked for its views regarding various remedial alternatives and its priorities with respect to goals for the CSO program.

The comments and recommendations received from the public during the Public Outreach process will be considered by MSD in preparing the LTCP Update that is submitted to USEPA, OEPA and ORSANCO. The LTCP Update will include a short section that recounts the events of the Public Outreach Program and briefly summarizes the public comments received. Where appropriate, the LTCP update will discuss the impact of public comments on the remedial measure selection process.

EXHIBIT 3

MONITORING AND MODELING WORK PLAN IN SUPPORT OF THE LTCP UPDATE

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1. INTRODUCTION

The following Work Plan is presented to generally describe the work to be accomplished in the Monitoring and Modeling Program. The monitoring program will span two years (2004 and 2005) and will focus on water quality conditions from mid-April through to mid-October.

The work plan, described in the following sections, builds on previous modeling and monitoring efforts such as the recent Wet Weather Demonstration Study completed by ORSANCO.

The work plan presentation is organized into five main components:

1. Monitoring Program Planning,
2. Ohio River Characterization,
3. Tributary Characterization,
4. Source Characterization, and
5. Water Quality Model Application.

The work associated with each component is described below.

2. WORK PLAN

2.1 Monitoring Program Planning

The number of samples required and the timing of sample collection is an important component of the water quality monitoring strategy. MSD will strive to optimize the application of monitoring resources by careful program pre-planning and by the use of real time radar.

The response time to rainfall for the Ohio River, for each of the tributary streams and rivers, and sources differs. The size of the contributing watersheds during a storm, the individual river/stream hydraulics, as well as the nature of the individual rainfall event, all contribute to defining response characteristics. Similarly, the response times for the CSO, SSO and stormwater sewersheds differ based on similar factors.

MSD, through the use of existing river and sewershed monitoring data and with the application of modeling tools, will characterize the response of the watersheds and sewersheds to various historical rainfall inputs. From this collection of information, MSD will be able to pre-plan the duration and optimum inter-sample times for each sample location and establish sampling goals for each location. Through the pre-planning process MSD expects to obtain suitable coverage of river, stream and source hydrographs and pollutographs from the rising and receding limbs to characterize water quality.

In addition, MSD will employ real time radar data to assist in determining the areal extent and timing of storm events while monitoring is ongoing. The radar information will be used to make operational decisions to adjust sampling durations in river, streams and at source sampling locations. Pre-planning of the field activities with the ability to make operational decisions on a sampling event basis will maximize the use of MSD's resources.

The outcome of the pre-planning process will be a detailed Field Sampling and Monitoring Program (FSMP) and Quality Assurance Project Plan (QAPP). The FSMP and QAPP will identify monitoring and sampling stations, define sampling goals, detail monitoring and sampling protocols and define quality objectives. The QAPP will be prepared in accordance with the

appropriate applicable sections of US EPA Guideline EPA QA/G5 (EPA/600/R-98/018, February, 1998).

2.2 Ohio River Characterization

2.2.1 Ohio River Water Quality Modeling

Update Hydrodynamic Model: The existing hydrodynamic model (RMA-2V) structure will be updated for the river reach from RM 460 to RM 490 to facilitate the analysis of a wide range of flow conditions. The update will include conversion of the existing RMA-2V model to continuous operation, development of hydrodynamic models of the larger Ohio-side tributaries, and linkage of those tributary models to the Ohio hydrodynamic model. The update may also include the incorporation of lateral flow inputs from the major tributaries. The calibration of the hydrodynamic model will be updated as necessary.

Update the Structure of the Existing Ohio River WASP Model: The structure of the existing Ohio River WASP model will be reviewed in detail and refined as necessary consistent with the hydrodynamic model refinements described above. MSD expects that updates and refinements of the models' structures will extend downstream to a point immediately upstream of the Great Miami River confluence, at (approximately) Ohio River Mile 490.

Update the Calibration of the Ohio River WASP Model and Hydrodynamic Model: Using the results of the Ohio River monitoring program and the revised hydrodynamic model, the calibration of the Ohio River WASP model will be updated for the river reach between RM 460 and RM 490. The water quality calibration will be exclusively for *E. Coli*.

Coordinate Ohio River Model Efforts with Tributary Modeling: The updated Ohio River WASP model, as well as the supporting Ohio River hydrodynamic model, will be configured to accept tributary inflows for the river reach between RM 460 and RM 490.

2.2.2 Ohio River Water Quality Monitoring

The Ohio River monitoring program includes both dry and wet weather monitoring. As illustrated in Figure 1, a combination of longitudinal and channel transect sample stations will be used. The monitoring program will span two years (2004 and 2005) and will focus on water quality conditions from mid-April through to mid-October.

Ohio River Monitoring Limits: The Ohio River monitoring will focus on a 30-mile stretch of the Ohio River. The upstream and downstream boundary locations are River Mile 460 (confluence of Four Mile Creek and the Ohio River) and River Mile 490 (immediately upstream of the confluence of the Great Miami River and the Ohio River), respectively.

Longitudinal Sample Sites: Mid-channel longitudinal sample sites will be located at approximately 2-mile intervals. Longitudinal sites will be sampled once per dry-weather event and approximately 5 times for each wet weather event. Although the goal of the wet weather sampling will be to take one sample daily for five days, this sampling frequency may be modified based on the pre-planning process described above and operational decisions associated with each sampling event, as appropriate to adequately characterize water quality.

Transect Sample Sites: Approximately 7 transects will be defined between River Mile 460 and 490. Each transect will consist of 5 stations, at least one of which should be located in the center channel. Approximately 5 samples will be collected from each transect station for

each wet weather event. Although the goal of the wet weather sampling will be to take one sample daily for five days at each transect station, this sampling frequency and the location of transect stations may be modified based on the pre-planning process described above and operational decisions associated with each sampling event, as appropriate to adequately characterize water quality.

Dry and Wet Weather Events: One to two wet weather events will be captured. Only one wet weather event will be sampled if the data developed is generally consistent with prior calibration of the river model. An additional two dry-weather events will be monitored.

Water Quality Parameter List: On-site monitoring will include dissolved oxygen, pH, conductivity and temperature. Based on the previous work carried out by ORSANCO, *E. Coli* will be the sole Pollutant of Concern (POC) for the Ohio River. Discrete samples will be collected for analysis of *E. Coli*.

2.3 Tributary Characterization

Tributary stream models for the Little Miami River/Duck Creek, Mill Creek, Rapid Run Creek and Muddy Creek will be calibrated for flow and water quality.

2.3.1 Tributary Water Quality Modeling

Common Elements of All Tributary Models: Model parameters will include *E. Coli*. and other parameters as appropriate based on the results of the monitoring program. Existing data and wet weather monitoring carried out during the LTCP Update will be used to establish the POCs for each stream individually. POCs will be established to assure that all parameters for which CSOs are causing or contributing to exceedances of Water Quality Standards are addressed. The monitoring results, once validated, will be compared to the appropriate Ohio Water Quality Standards. On the basis of this comparison, a list of POCs will be prepared for inclusion in the subsequent water quality modeling conducted pursuant to this plan. Model calibration will focus on POCs to be modeled, with particular emphasis on *E. Coli*.

Little Miami River: A conceptual illustration of the proposed Little Miami River WASP model is provided as Figure 2. The upstream boundary will be located at approximately River Mile 8.2, near Newtown Road. The WASP model includes branches of Duck Creek and Clough Creek. The USGS gauging station at Milford will be used to help define upstream boundary flows for modeling purposes.

Mill Creek: A conceptual illustration of the proposed Mill Creek WASP model is provided as Figure 3. The upstream boundary will extend to approximately River Mile 18.2, near East Crescentville Road. The USGS gauging station at Carthage will be used to help define upstream boundary flows for modeling purposes.

Muddy Creek and Rapid Run: A conceptual illustration of the proposed Muddy Creek and Rapid Run WASP models is provided as Figure 4. The extent of the models will be the mouth of the creeks.

2.3.2 Tributary Water Quality Monitoring

The approximate tributary monitoring locations for Little Miami River, Mill Creek, and Muddy

Creek and Rapid Run are provided in Figures 5 through 7.

The tributary monitoring program will span two years (2004 and 2005).

The dry-weather sampling program will include the collection of approximately 10 grab samples per site, as appropriate to adequately characterize water quality.

The parameter list will include total suspended solids, *E. Coli.*, dissolved metals, total phosphorus, soluble reactive phosphorus, ammonia, nitrite, nitrate, total Kjeldahl nitrogen, and total hardness.

Continuous flow and water quality (for pH, temperature, dissolved oxygen, and conductivity) measurements will be made at strategic stream locations during both wet and dry weather periods.

Wet weather sampling will be completed for a minimum of 3 events during the monitoring period.

Wet weather event sampling frequency goals (number of samples collected per storm event) at each sampling station will be established as part of the pre-planning process through the use of existing river and sewershed monitoring data and with the application of modeling tools to characterize the response of the watersheds and sewersheds to various historical rainfall inputs. Although the objective is to meet the sampling frequency goals set out, this sampling frequency may be modified based on operational decisions associated with each sampling event, as appropriate to adequately characterize the changes in discharge quality that take place over the course of each monitored event.

Event composite samples will be collected to determine average wet weather quality and will be analyzed for total suspended solids, dissolved metals, total phosphorus, soluble reactive phosphorus, ammonia, nitrite, nitrate, total Kjeldahl nitrogen and hardness.

Grab samples taken during a wet weather event will utilize the sampling frequency goals indicated above and will be analyzed for total suspended solids and *E. Coli.*

2.4 Source Characterization

The source monitoring programs address wet weather flows and loads associated with stormwater runoff, CSOs and significant SSO sources for Ohio side-sources in the Ohio River from RM 460 to RM 490 and the tributary streams noted in Section 2.3. These modeling programs will also address Kentucky-side sources to the extent information has been provided as discussed in paragraph 2.5.1, below, or is otherwise made available to MSD by the United States, the State of Ohio or ORSANCO. Nothing in this plan will be read to impose on MSD the obligation to collect data on the Kentucky side of the Ohio River.

2.4.1 Source Modeling

Modeling of significant SSO and CSO sources will be based upon the newly developed system wide collection system model. Stormwater flows will be generated using updated versions of the 1996 Long-Term Control Plan SWMM non-point source models.

2.4.2 Source Monitoring

Source monitoring will be completed at a minimum of 13 combined sewer locations (CSOs), 4

sanitary sewer overflow locations (SSOs), and 4 storm sewer outfall locations. CSO sites will be selected based on location, sewershed characteristics, overflow size, average annual overflow volume and frequency, configuration, upstream land use, and accessibility. The sites will be selected to provide a reasonably representative sampling of Defendants' active CSOs, based on typical year discharge characteristics.

1 to 2 stormwater sample locations will be selected per watershed.

SSO sites will be selected on the basis of location, overflow size, and accessibility.

Sites will be monitored for a minimum of 3 wet weather events.

Wet weather event sampling frequency goals (number of samples collected per storm event) at each sampling station will be established as part of the pre-planning process through the use of existing sewershed monitoring data and with the application of modeling tools to characterize the response of the sewersheds to various historical rainfall inputs. Although the objective is to meet the sampling frequency goals set out, this sampling frequency may be modified based on operational decisions associated with each sampling event, as appropriate to adequately characterize the changes in discharge quality which take place over the course of each monitored event.

Discrete source samples will be taken with the sampling frequency goals indicated above and will be analyzed for total suspended solids, and *E. Coli*.

Event composite samples will be collected at each site and will be analyzed for total suspended solids, dissolved metals, total phosphorus, soluble reactive phosphorus, ammonia, nitrite, nitrate, total Kjeldahl nitrogen, total carbonaceous biochemical oxygen demand and filtered carbonaceous biochemical oxygen demand.

2.5 Water Quality Model Application

2.5.1 Ohio River From RM 460 to RM 490, and Little Miami River/Duck Creek, Mill Creek, Rapid Run Creek and Muddy Creek

The water quality model application will involve the assessment of impacts, on Ohio-side tributaries and the mainstem of the Ohio River, for a representative year.

The water quality model application will include:

Definition of Baseline Conditions: Water quality models will be applied to generate water quality predictions for a representative year. In support of this baseline assessment, it will be necessary for regulatory authorities to provide flow time-series and pollutant data corresponding to Kentucky-side sources.

Development and Analysis of Scenarios: In conjunction with the development of the long-term control plan, a variety of management scenarios will be prepared. The corresponding water quality impacts, or improvements, will be assessed relative to the baseline case described above using the modeling tools. It is expected that regulatory authorities will provide the necessary flow time-series and pollutant data corresponding to Kentucky-side sources.

2.5.2 Ohio River From RM 490 to Markland Dam

Defendants will utilize the existing ORSANCO Ohio River model structure, operated in a continuous mode, to evaluate the impacts that Defendants' CSOs are expected to have on *E. Coli* levels in the Ohio River between River Mile 490 and the downstream Markland Dam if the proposed Long Term Control Plan Update is implemented. Defendants are only agreeing to perform this evaluation at the regulators' request. Defendants do not believe that the existing ORSANCO Ohio River model structure is adequate to perform this evaluation of the impacts beyond River Mile 490 and reserve the right to dispute the accuracy or reliability of the results of this evaluation of the impacts beyond River Mile 490.

Figure 1 General Sample Station Locations for the Ohio River

Figure 2 Conceptual Little Miami River WASP Model

Figure 3 Conceptual Mill Creek WASP Model

Figure 4 Conceptual Muddy Creek/Rapid Run WASP Model

Figure 5 Approximate Monitoring Locations for Little Miami River

Figure 6 Approximate Monitoring Locations for Mill Creek

Figure 7 Approximate Monitoring Locations for Muddy Creek/Rapid Run

Exhibit 3: Figure 1 General Sample Station Locations for the Ohio River

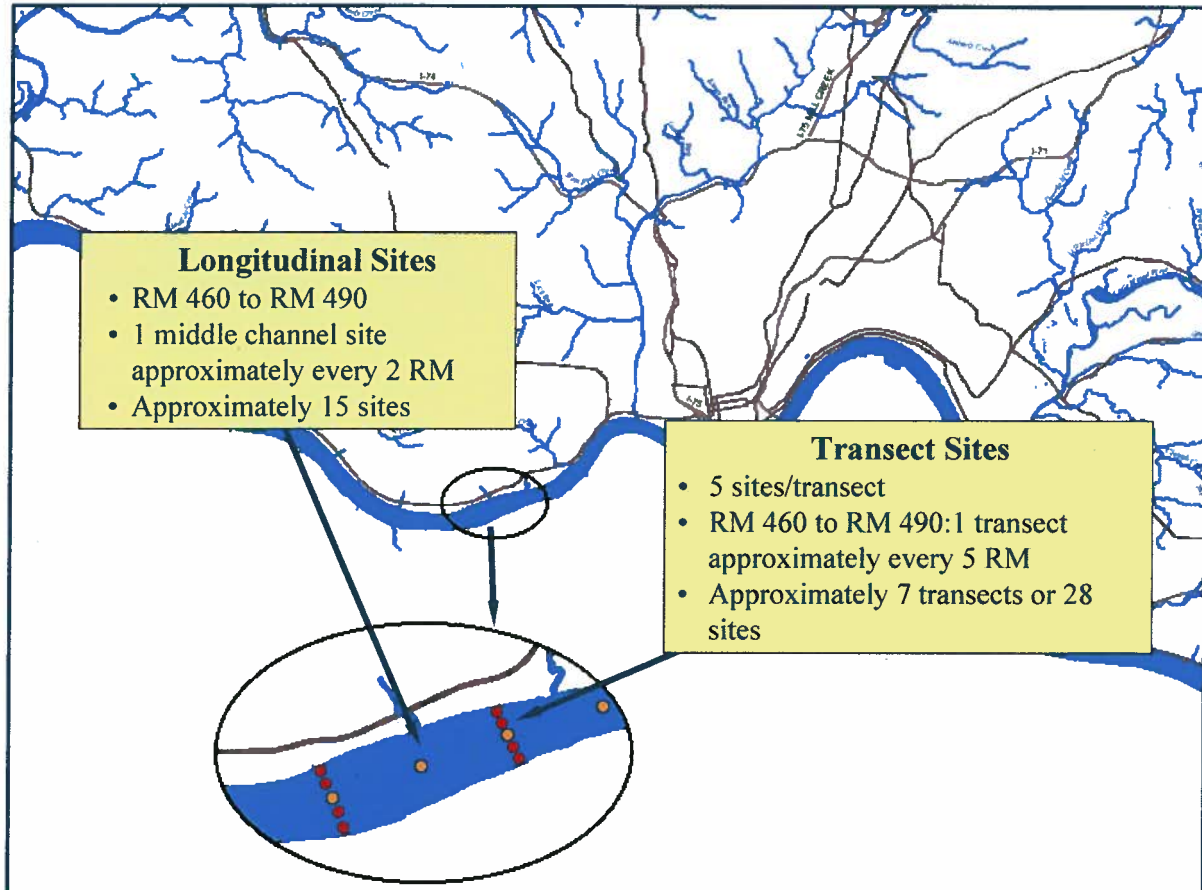


Exhibit 3: Figure 2 Conceptual Little Miami River WASP Model

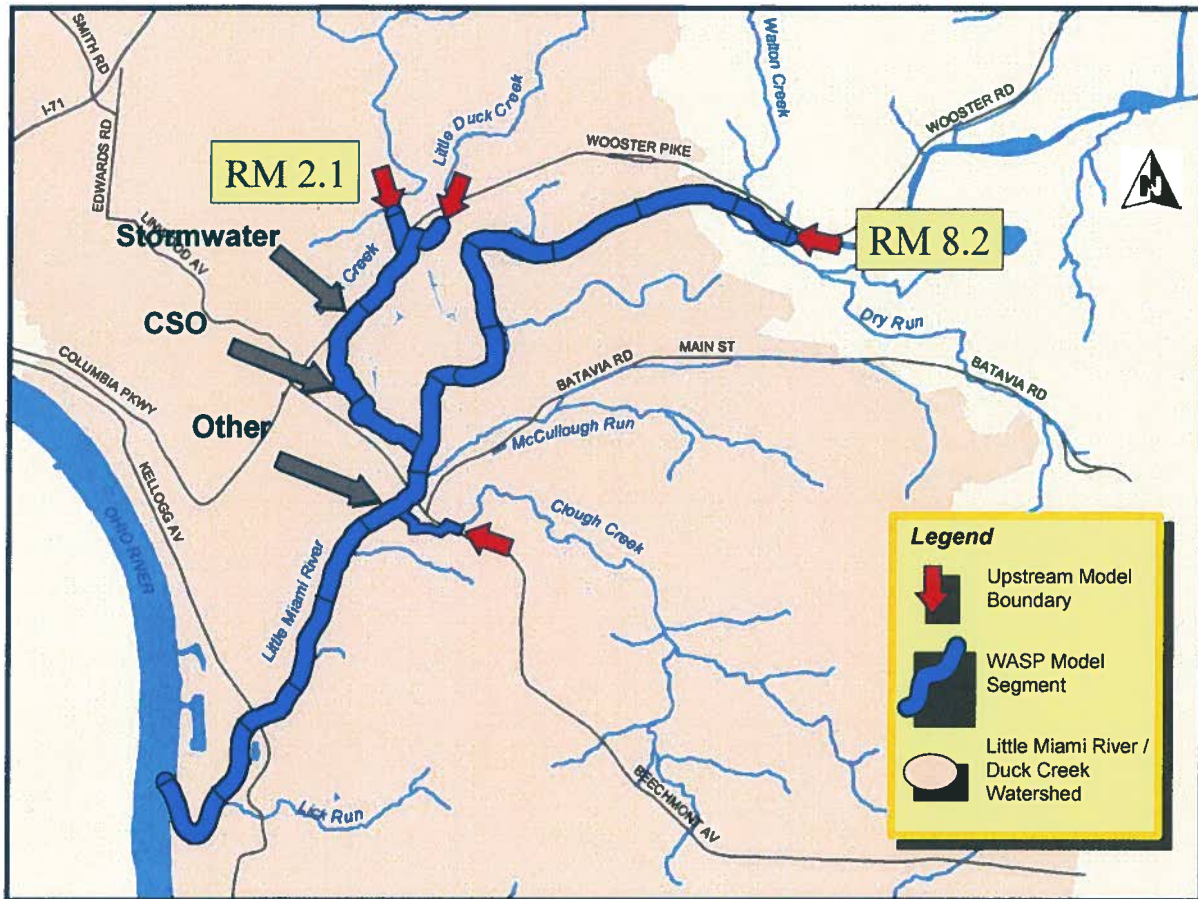


Exhibit 3: Figure 3 Conceptual Mill Creek WASP Model

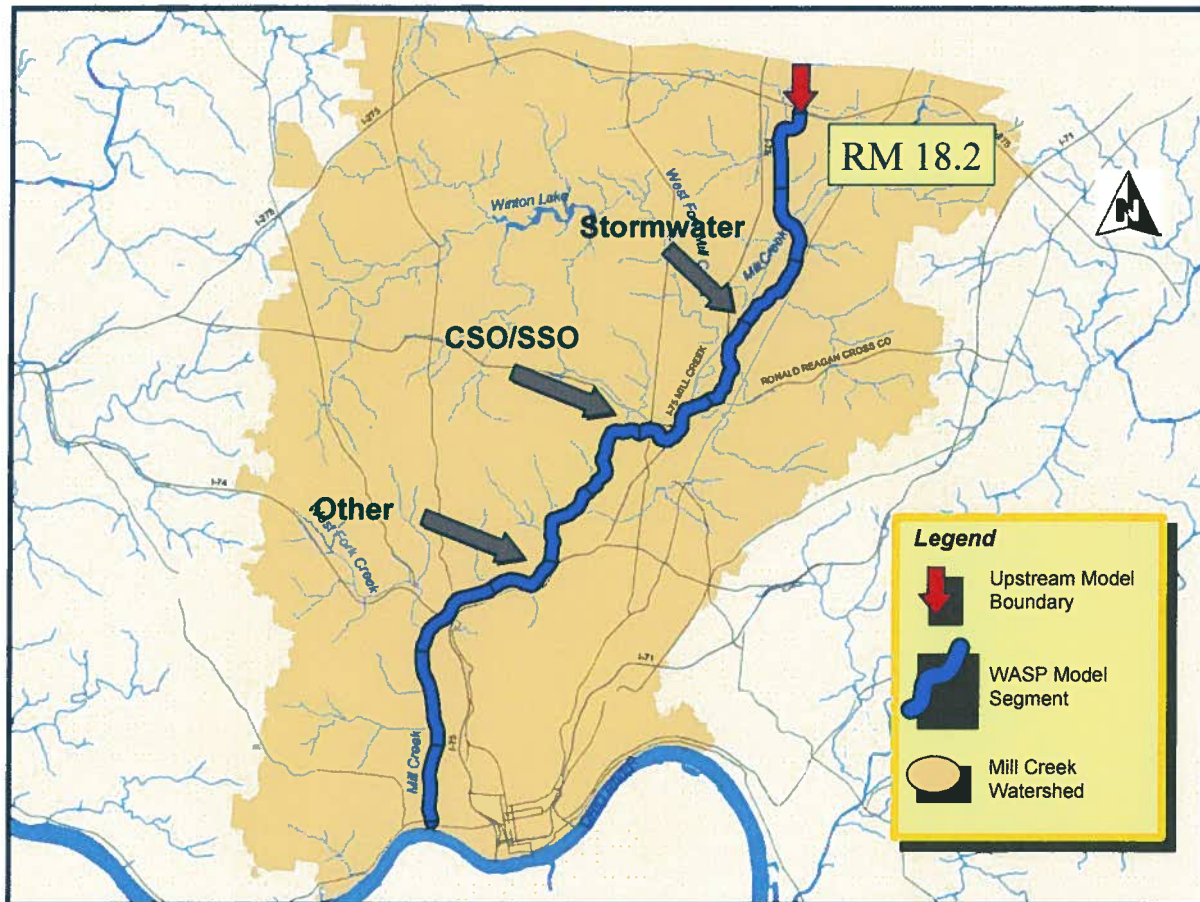


Exhibit 3: Figure 4 Conceptual Muddy Creek/Rapid Run WASP Model

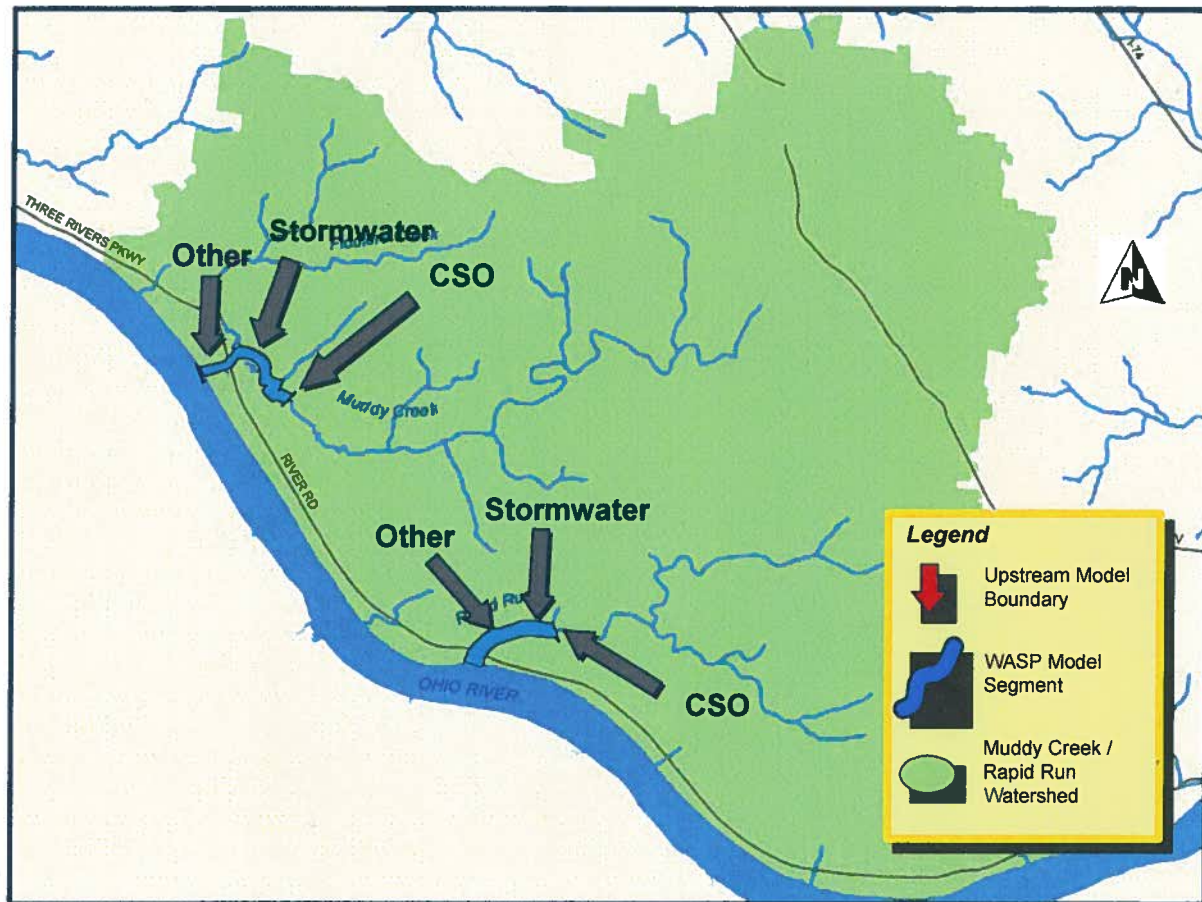


Exhibit 3: Figure 5 Proposed Monitoring Locations for Little Miami River

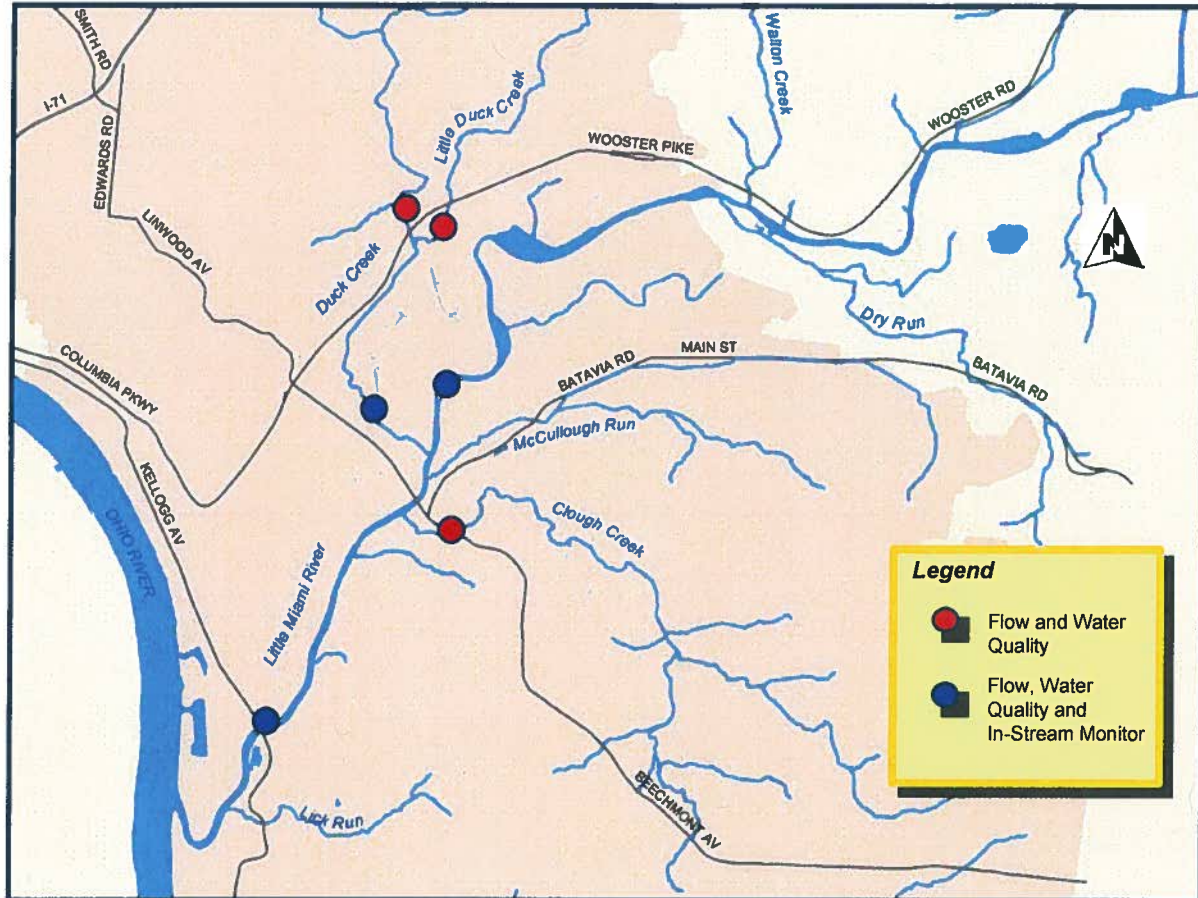


Exhibit 3: Figure 6 Proposed Monitoring Locations for Mill Creek

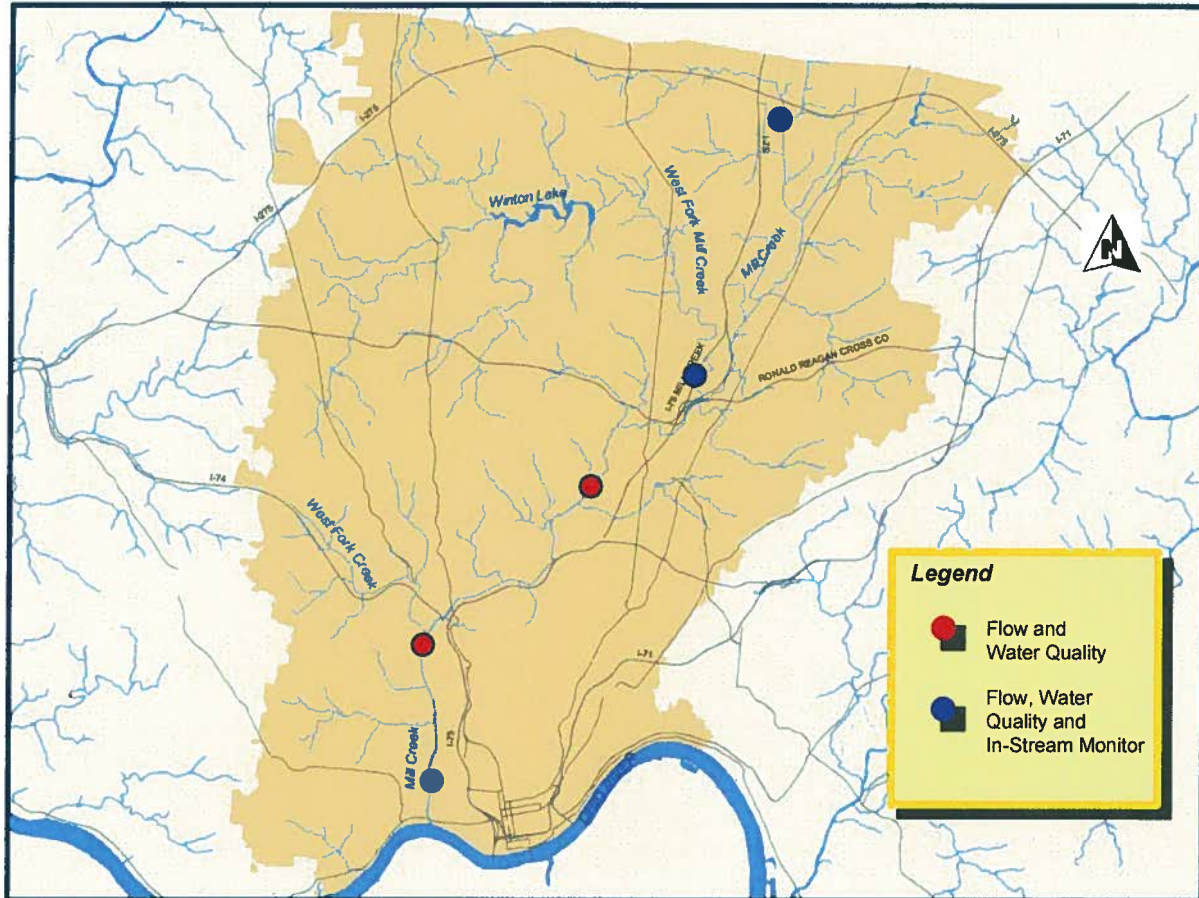


Exhibit 3: Figure 7 Proposed Monitoring Locations for Muddy Creek/Rapid Run

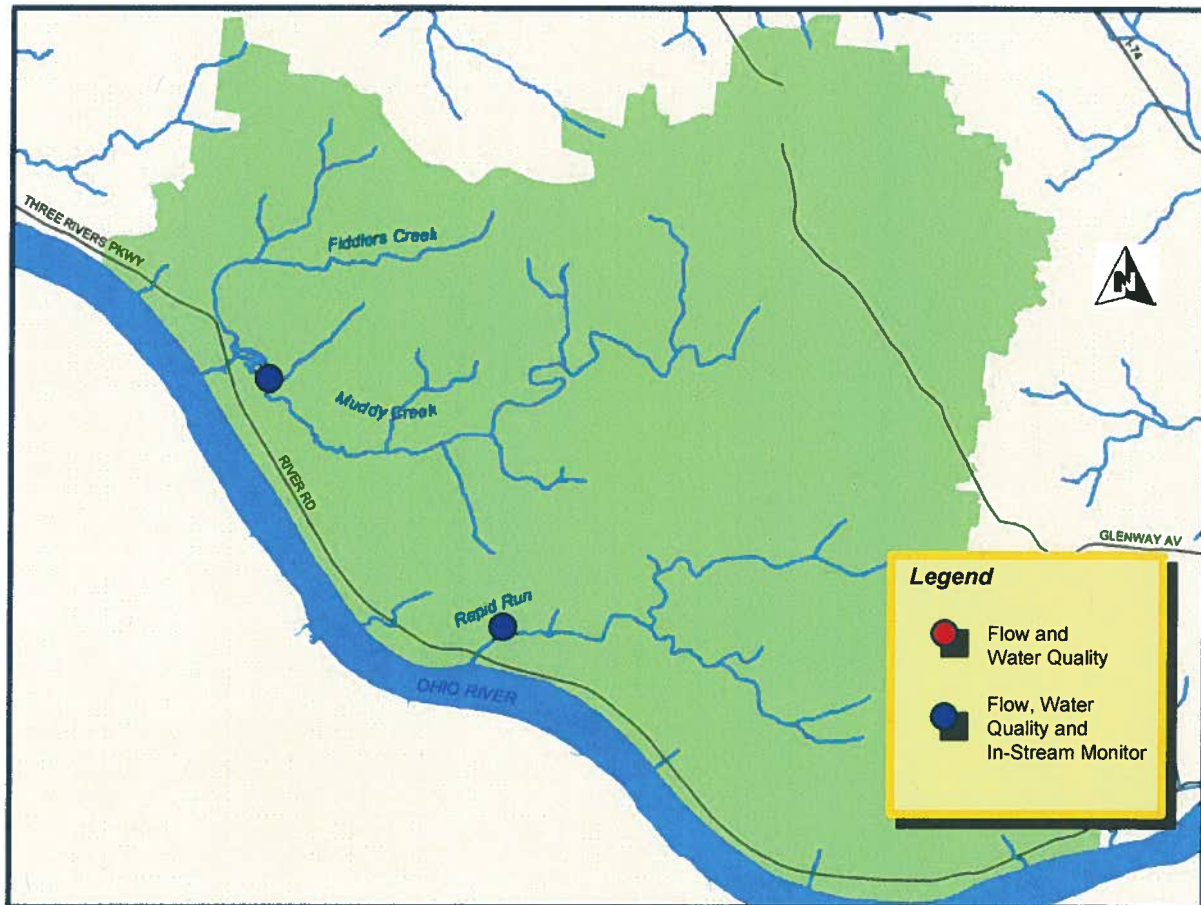


EXHIBIT 4

LONG TERM CONTROL PLAN UPDATE WORK PLAN

I. Introduction

This Long Term Control Plan Update Work Plan describes the process and schedule that Hamilton County and the City of Cincinnati (“Defendants”) will follow, the analyses Defendants will perform, and the information Defendants will generate, obtain and provide, to develop a Long Term Control Plan Update Report and Long Term Control Plan Update in accordance with the Consent Decree on Combined Sewer Overflows, Wastewater Treatment Plants and Implementation of Capacity Assurance Program Plan for Sanitary Sewer Overflows (“Consent Decree”), and the steps Defendants will take to keep the United States Environmental Protection Agency, the Ohio Environmental Protection Agency, and the Ohio River Valley Water Sanitation Commission (the “regulators”) apprized of developments throughout the course of development of the Long Term Control Plan Update so the regulators can provide meaningful input throughout the process.

II. Long Term Control Plan Update

Defendants will do the following to develop a Long Term Control Plan Update:

A. Defendants have prepared a comprehensive listing of all current CSOs, assigning them to clusters, sewersheds and watersheds; this listing is appended to this Work Plan as Attachment A. Defendants will review the permit status of each CSO with the state regulatory authorities. The Defendants may, after consultation with the regulators, adjust cluster definitions as necessary to facilitate consideration of more effective CSO control alternatives. Defendants anticipate that a number of CSOs will be identified as suitable for elimination (or control such that no overflows occur in a typical year) through sewer separation. In such cases, sewer separation shall be the selected alternative as part of the Long Term Control Plan Update for the CSOs at issue, and these projects will not be subject to further alternatives evaluation.

Defendants will complete an initial screening analysis of the alternatives in Attachment A, excluding CSOs to be separated as described above, to eliminate from further consideration any alternatives that are not feasible. Infeasibility may be due to factors such as site constraints, technology limitations, or exorbitant costs (in relation to other comparable alternatives being considered for the same CSO clusters, and in relation to costs expended by other CSO communities for similar technologies on a cost/performance or cost/unit size basis as reported in the literature (normalized to

current year dollars)).

Following the initial screening analysis, Defendants will integrate the clusters with interceptor and central/regional treatment alternatives to develop a minimum of 2 to 3 overall CSO control strategies for each of the three combined sewersheds (Mill Creek; Muddy Creek; and Duck Creek/East Little Miami). Defendants may develop one or more variations for any of these overall CSO control strategies. These variations (e.g., Mill Creek Alternatives 1A and 1B) would allow consideration of modifications of a particular strategy. An example might be an overall alternative that utilizes a storage tunnel to address all CSOs in a sewershed except one small, remote overflow. Two sub-alternatives might involve (a) separation or (b) local storage of that one small outfall.

B. Defendants will carry forward for cost-performance and other analysis a minimum of 2 to 3 overall CSO control strategies for each sewershed. Defendants' cost-performance analysis of these alternatives will consist of the following:

1. Use of a planning-level model based on Defendants' Sewer System Hydraulic Model, relevant information, and sound engineering judgment to develop reasonable, planning-level estimates of the sizes, capacities, performance in a typical year (i.e., number of activations and overflow volume), and other relevant characteristics of each of the alternatives being evaluated, for the following levels of typical year CSO volumetric control: 85%, 90%, 95%, 99+% typical year control;

2. Review of relevant information, including recent estimates and bids, to develop reasonable, planning level estimates of the "Project Costs," as that term is described on pages 3-49 through 3-51 of U.S. EPA's September 1995 "Combined Sewer Overflows: Guidance for Long Term Control Planning" for each alternative that is being evaluated. The determination of Project Costs will include: (i) "capital costs," "annual O & M costs," and the calculation of "life cycle costs" for each alternative and (ii) a break down of the "capital costs" and "annual O & M costs" that went into calculating the Project Costs for each alternative. The terms "capital costs," "annual O & M costs," and "life cycle costs" are described on pages 3-49 through 3-51 of U.S. EPA's September 1995 "Combined Sewer Overflows: Guidance for Long Term Control Planning." Data will be adjusted to suit local conditions based on size, site conditions, and construction features;

3. An evaluation of the costs and performance in terms of reducing overflow frequency and/or volume and/or loadings of Pollutants of Concern as determined through implementation of the Monitoring and Modeling Work Plan (Exhibit 3). The evaluations shall include, but not be limited to, "knee of the curve" cost-performance analyses. These analyses will allow for the comparison of the costs per unit of measure of frequency and/or volume reduction and/or pollutants removed from the discharge for each alternative that has been evaluated;

4. An evaluation of each alternative's performance with regard to the control of floatables and solids, in accordance with the CSO Policy. It is understood that this evaluation will be qualitative in nature and will address the general capability of the proposed alternative for floatables and solids removal; and

5. As part of the cost and performance analyses, Defendants shall consider all of the CSO-specific alternatives identified in Attachment A, to optimize the cost-performance of each of the overall control strategies identified for each sewershed.

C. If Defendants believe that a revision to water quality standards based upon affordability will be necessary to enable Defendants to meet the goals set forth below in Paragraph II.E.1; Defendants will generate the following financial information to assist the State of Ohio and ORSANCO with their decisions concerning any potential revisions to water quality standards:

1. The information pertaining to the impacts that the Updated Long Term Control Plan Update is expected to have on the community specified in Chapters 2 and 4 of U.S. EPA's March 1995 Interim Economic Guidance for Water Quality Standards: Workbook (EPA 823-B-95-002), derived in accordance with the instructions in that document; and a description of the sources used to derive the information. This information shall, at a minimum, include: 1) a "Municipal Preliminary Screener" (*i.e.*, "Average Total Pollution Control Cost per Household" divided by "Median Household Income") that is derived using the Median Household Income for the entire Metropolitan Sanitary District service population; and 2) a "Municipal Preliminary Screener" that is calculated on a community-by-community basis;

2. Information on availability of grants and/or loans for funding the alternatives that have been evaluated; bond capacity for the next twenty years; current and projected residential, commercial and industrial user fees; and other viable funding mechanisms and/or sources of financing construction of the alternatives; and

3. Any other information that Defendants believe is important in evaluating Defendants' financial capability to fund improvements to Defendants' Sewer System and WWTPs, including without limitation, information developed in accordance with U.S. EPA's February 1997 "CSO-Guidance for Financial Capability Assessment and Schedule Development" (EPA 832-B-95-06), and/or U.S. EPA's March 1995 Interim Economic Guidance for Water Quality Standards: Workbook (EPA 823-B-95-002).

4. As an alternative to providing the information described above, the Defendants may provide information consistent with the State of Ohio procedures for evaluating financial capability and other criteria suitable for water quality standards revisions.

D. Defendants will utilize a planning-level model based on Defendants' Sewer System Hydraulic Model, Defendants' water quality modeling capabilities developed as a result Defendants' implementation of the Monitoring and Modeling Work Plan (Exhibit 3), and water quality monitoring data developed in the course of implementing Exhibit 3 to evaluate the impacts that 85%, 90%, 95%, and 99+% typical year volumetric control by each of the minimum of 2 to 3 control strategies per watershed would have on the levels of POCs as determined through implementation of the Monitoring and Modeling Work Plan (Exhibit 3) in the receiving streams in areas affected by CSOs and bypassing during a "typical year." This will include:

1. Evaluating the impacts that the alternatives would have on reducing or eliminating days and hours of exceedances of water quality criteria for POCs in receiving streams impacted by CSOs and bypassing during a typical year when background sources including Kentucky-side discharges, boundary flows in the area rivers and streams, storm water, SSO, WWTP effluents and other discharges of the POCs are included in the evaluation;

2. Evaluating the impacts that background sources would have on exceedances of water quality criteria for POCs in receiving streams impacted by CSOs and bypassing during a typical year if CSOs and bypasses were assumed to be zero; and

3. In the event that Defendants intend to seek a revision to water quality standards, Defendants will carry out the analyses described in Paragraphs II.D.1 and II.D.2 using both the existing water quality criteria and the prospective water quality criteria for the parameters for which revision is sought. If Defendants intend to seek a revision to water quality standards, they may choose to apply for a revision pertaining to an entire sewershed or sewersheds or they may choose to seek a revision pertaining to only a portion or portions of a sewershed or sewersheds. If Defendants intend to seek a revision pertaining to only a portion or portions of a sewershed, Defendants shall carry out the analyses described in Paragraphs II.D.1 and II.D.2 for other cluster-specific alternatives identified in Attachment A, as may be appropriate to provide information necessary to support the request for water quality standard revision.

E. 1. Defendants will utilize the analysis, evaluations and information described in Paragraphs II.A - II.D along with other information and data pertaining to cost-effectiveness, financial capacity and affordability, community standards and other operating, socio-economic and environmental factors to identify proposed remedial measures, the "Long Term Control Plan Update," necessary to achieve the goals of insuring that: (1) Defendants construct and implement all feasible alternatives to eliminate bypasses at Defendants' WWTPs or, if Defendants demonstrate during the course of developing the Long Term Control Plan Update that elimination of bypassing is not feasible, to reduce bypasses at the WWTPs to the maximum extent feasible and to provide maximum feasible treatment for any remaining bypasses (where appropriate,

feasible alternatives to bypassing may include, without limitation, high rate physical-chemical treatment units and/or primary clarification and disinfection); (2) Defendants' CSOs comply with the requirements of the Clean Water Act, U.S. EPA's CSO Policy, Chapter 6111 of the Ohio Revised Code and the rules promulgated thereunder, the Compact and the pollution control standards promulgated thereunder, and Defendants' Current Permits; and (3) Defendants eliminate Unpermitted Overflows.

2. It is expected that the Defendants will meet with the regulators to review the proposed remedial measures and will work with the regulators to assess compliance with water quality standards and any necessary revisions to water quality standards.

3. In accordance with Paragraph IX.B of the Consent Decree, Defendants may also include the following as elements of their proposed Long Term Control Plan Update: a Sewer Relining and Manhole Rehabilitation Program Plan; measures for preventing Water-In-Basements ("WIB(s)"); measures necessary to meet the adequate capacity requirements of Paragraph XIII.D (Water-in-Basement Program: Adequate Capacity), including measures implemented pursuant to Exhibit 6 (Water-in-Basement Prevention Program) of the Consent Decree; and remedial measures necessary to comply with new or more stringent requirements that are included or expected to be included in future NPDES permits pertaining to Defendants' WWTPs or Sewer System. Capital costs required to implement the measures described in the immediately preceding sentence may be included by Defendants in calculating the \$1.5 billion cost estimate referenced in Paragraph II.F of this Work Plan.

F. Defendants will develop a schedule that is as expeditious as practicable for design, construction, implementation and utilization of the remedial measures proposed pursuant to Paragraph II.E, above (including any of the additional elements described in Paragraph II.E.3, above, that Defendants propose to include in the Long Term Control Plan Update). The schedule shall contain a deadline for substantial completion of construction of all remedial measures in a manner that is as expeditious as practicable, but in no event later than February 28, 2022, unless Defendants demonstrate that the capital costs (in 2006 dollars) of the remedial measures specified in the Long Term Control Plan Update and the Capacity Assurance Program Plan approved under the Interim Partial Consent Decree on Sanitary Sewer Overflows are expected to exceed \$1.5 billion. If Defendants demonstrate that such capital costs are expected to exceed \$1.5 billion, then the deadline for completion of all remedial measures specified in the Long Term Control Plan Update and the CAPP must be specified in the Plan(s) and must still be as expeditious as practicable, but may be later than February 28, 2022, if it is not practicable to complete the CAPP and Long Term Control Plan Update remedial measures by that date. The schedule will be developed in coordination with the schedule for implementing the Capacity Assurance Program Plan developed in accordance with the Interim Partial Consent Decree on Sanitary Sewer Overflows, and will also be based

on consideration of the following: water quality, human health, capacity-related “water in basement” issues, pollutant loadings, volume of discharge, community priorities, sensitive areas, U.S. EPA’s February 1997 “CSO-Guidance for Financial Capability Assessment and Schedule Development” (EPA 832-B-95-06), and/or U.S. EPA’s March 1995 Interim Economic Guidance for Water Quality Standards: Workbook (EPA 823-B-95-002), and reducing inefficiencies in the event that future contingencies do not occur as anticipated (e.g., water quality standards are not revised, see Paragraph III.G below, and so the Long Term Control Plan Update must be modified). The schedule will include critical construction milestones, including, at a minimum, deadlines for submission of Permits to Install; commencement of construction, and commencement of operations/substantial completion of construction.

G. The CSO Policy recognizes that information developed during the course of long term control planning may serve as a basis for seeking revisions to water quality standards or NPDES permit requirements, particularly where that information demonstrates that it will not be feasible to attain water quality standards. If the proposed Long Term Control Plan Update described in this Section II is not expected to ensure compliance with the requirements of the Clean Water Act, U.S. EPA’s CSO Policy, Chapter 6111 of the Ohio Revised Code and the rules promulgated thereunder, the Compact and the pollution control standards promulgated thereunder that are in effect as the plan is being developed, but is instead based upon Defendants’ belief that those requirements will be revised by the time Defendants complete implementation of the Long Term Control Plan Update, Defendants, working in conjunction with Ohio EPA and ORSANCO, will evaluate how those legal requirements will change (e.g., anticipated changes in NPDES permitting requirements or water quality standards applicable to Defendants). If Defendants’ proposed Long Term Control Plan Update is premised on Defendants’ belief that legal requirements will change, then Defendants will also identify, describe and evaluate at least one alternative set of remedial measures that would most cost-effectively ensure that Defendants’ CSOs during a typical year will comply with all legal requirements if those requirements are not changed. In providing the information required by the preceding sentence, Defendants are not proposing or agreeing to implement such measures.

H. By June 30, 2006, Defendants will submit a report, the Long Term Control Plan Update Report,” to U.S. EPA/Ohio EPA/ORSANCO. The Long Term Control Plan Update Report will contain the following:

1. A description of the steps Defendants took to comply with the Public Participation Plan attached to the Consent Decree as Exhibit 2, including how Defendants took information provided by the public into account in developing the Long Term Control Plan Update;
2. A narrative description of the Long Term Control Plan Update

development process and of the information gathered and the analyses conducted, including descriptions of how Defendants complied with the requirements of this Long Term Control Plan Update Work Plan and considered the various factors set forth in and information developed pursuant to this Long Term Control Plan Update Work Plan in selecting the recommended measures and the proposed construction schedule in the Long Term Control Plan Update;

3. Narrative discussions and appropriate graphical and tabular summaries of the results of the comparative water quality impacts of the various alternatives considered. It is anticipated that these will include tabular comparison of incremental cost/performance and graphics depicting the results of “knee of the curve” analyses;

4. A Long Term Control Plan Update that:

a. Identifies and provides detailed information (including appropriate design and performance criteria, as described in subparagraph 4.b, below) regarding additional remedial measures, if any, the “Long Term Control Plan Update,” that are necessary to achieve the goals set forth above in Paragraph II.E.1 of this Workplan;

b. Criteria necessary to ensure that the remedial measures are properly designed (“design criteria”) and to ensure that, once constructed, the remedial measures perform in the manner that they were expected to perform (“performance criteria”); and

c. Contains a schedule that complies with the requirements of Paragraph II.F, above.

5. A narrative description and summary graphs, tables and data, based on the analysis required by Paragraph 2.5.2 of the Monitoring and Modeling Work Plan (Exhibit 3) regarding the impacts that Defendants’ CSOs, among other pollutant sources, are expected to have on *E. coli* levels in the Ohio River between River Mile 490 and the downstream Markland Dam if the proposed Long Term Control Plan Update is implemented. Defendants are only agreeing to perform this evaluation at the regulators’ request. Defendants do not believe that the existing ORSANCO Ohio River model structure is adequate to perform this evaluation of the impacts beyond River Mile 490 and reserve the right to dispute the accuracy or reliability of the results of this evaluation of the impacts beyond River Mile 490.

6. If Defendants’ proposed Long Term Control Plan Update is premised on Defendants’ belief that legal requirements will change, an explanation as to why the suite of alternatives developed pursuant to Paragraph III.G, above was not selected;

7. If Defendants' proposed Long Term Control Plan Update is premised on Defendants' belief that water quality standards will be revised based on affordability, all of the information pertaining to the impacts that the Updated Long Term Control Plan Update is expected to have on the community specified in Chapters 2 and 4 of U.S. EPA's March 1995 Interim Economic Guidance for Water Quality Standards: Workbook (EPA 823-B-95-002), derived in accordance with the instructions in that document; and a description of the sources used to derive the information. This information shall, at a minimum, include: 1) a "Municipal Preliminary Screener" (*i.e.*, "Average Total Pollution Control Cost per Household" divided by "Median Household Income") that is derived using the Median Household Income for the entire Metropolitan Sanitary District service population; and 2) a "Municipal Preliminary Screener" that is calculated on a community-by-community basis. If State of Ohio or ORSANCO procedures are used to assess affordability, information developed to support that assessment will also be presented.

III. Updating the Regulators as the Long Term Control Plan Update is Being Developed

At least twice each year in 2004 and 2005, and at least once between January 1 and March 31 in 2006, Defendants will provide to the regulators oral and visual presentations, summary reports, data and paper copies of the presentation materials at the time of the presentation concerning the status of Defendants' implementation of this Long Term Control Plan Update Work Plan as well as preliminary results, as they become available, of the analysis described in Section II. The regulators will attempt to provide any written comments to the Defendants within 15 days of the presentation. Among other things, the presentations will address the following:

1. Summaries of the results of the initial screening analysis performed in accordance with Paragraph II.A of this Work Plan, including a description of all alternatives that were determined to be not feasible and, for each alternative eliminated from further consideration, an explanation as to the basis for Defendants' conclusion that the alternative was not feasible;

2. For each alternative being evaluated, a description of the measures (including various sizes associated with each level of control evaluated) that Defendants estimated would need to be constructed in accordance with Paragraph II.B.1;

3. Information concerning the costs and performance (in terms of volume and pollutant loading reductions, regardless of water quality impacts, and floatables and solids control) of each size of each of the alternatives evaluated. This information may include "knee of the curve" cost-performance analyses that will allow for the comparison of the costs per unit of measure of CSO volume or pollutants removed from the discharge for each alternative that has been evaluated. Measures to be used may include projected reductions in annual pollutant loads and/or discharge volumes and/or overflow

frequencies for each of the alternatives evaluated for each specific CSO cluster and bypassing point, as well as projected reductions in pollutant loads and/or discharge volumes and/or overflow frequencies on a receiving stream by receiving stream basis;

4. Summaries of the water quality monitoring data collected pursuant to the Monitoring and Modeling Work Plan (Exhibit 3);

5. The proposed Long Term Control Plan Update as set forth in Paragraphs II.E and II.F; and

6. Proposed modifications, if any, to existing water quality standards on a stream-by-stream basis.

EXHIBIT 4, ATTACHMENT A-1 - MILL CREEK DRAINAGE AREA ALTERNATIVES

CSO	Location	Receiving Water	Alternative Group No.	Alternatives To Be Evaluated							
				Base Assumption	SE/PELIM	MILL CRK TUNNEL	CONSOL / HRT	CONSOL / STORE	SCREEN / OPTIM	HWIDW	OTHER
887	EASTERN AND GOTHAM	Ohio River	MILL-1	Constructed/identified post-1996. Sep. to be considered.	X	—	•	•	X	NA	If not eliminating by separation, consider HRT and storage
460	BAYOU ST. 100 WEST DIV. DAM	Ohio River	MILL-1	HWIDW Improvement	X	—	X	X	X	Planned	Consolidation for storage/treatment of 460 & 468
469	BAYOU ST. 120 WEST REGULATOR	Ohio River	MILL-1	HWIDW Improvement	X	—	•	•	X	Planned	If not eliminating by separation, consider HRT and storage
468	COLLINS ST. EAST DIV. DAM	Ohio River	MILL-1	HWIDW Improvement	X	—	X	X	X	Y	Consolidation for storage/treatment of 460 & 468
467	COLLINS ST. WEST DIV. DAM	Ohio River	MILL-1	HWIDW Improvement	X	—	•	•	X	Planned	If not eliminating by separation, consider HRT and storage
467A	COLLINS ST. WEST REGULATOR	Ohio River	MILL-1	Optimization	X	—	•	•	X	Y	If not eliminating by separation, consider HRT and storage
668	HAZEN ST. @ GLEN ALLEY DIV. DAM	Ohio River	NA	Constructed/identified post-1996. Sep. to be considered.	X	—	•	•	X	Y	If not eliminating by separation, consider HRT and storage
466	HAZEN ST. DIV. DAM	Ohio River	MILL-1	Optimization	X	—	•	•	X	NA	If not eliminating by separation, consider HRT and storage
466	WALDEN ST. DIV. DAM	Ohio River	MILL-1	Optimization	X	—	X	X	X	NA	Consolidation for storage/treatment of 464A & 465
464A	LUTHERBURY ST. NORTH DIV. DAM	Ohio River	MILL-1	Optimization	X	—	X	X	X	NA	Consolidation for storage/treatment of 464A & 465
464B	LUTHERBURY ST. SOUTH DIV. DAM	Ohio River	MILL-1	Constructed/identified post-1996. Sep. to be considered.	X	—	•	•	X	NA	If not eliminating by separation, consider HRT and storage
463A	COLLARD ST. REGULATOR	Ohio River	MILL-2	Relocate Div. Dam	X	—	•	•	X	Y	If not eliminating by separation, consider HRT and storage
462	PARSONS ST. DIV. DAM	Ohio River	MILL-2		X	—	X	X	X	NA	Storage/treatment of 462
461	SAWYER POINT EAST DIV. DAM	Ohio River	MILL-2	HWIDW Improvement	X	—	•	•	X	Planned	If not eliminating by separation, consider HRT and storage
465E	EGGLESTON & 3RD	Ohio River	MILL-2	Constructed/identified post-1996. Sep. to be considered.	X	—	•	•	X	Y	If not eliminating by separation, consider HRT and storage
465E	EGGLESTON AND PETE ROSE WAY DIV. DAM	Ohio River	MILL-2	HWIDW Improvement	X	—	•	•	X	Y	If not eliminating by separation, consider HRT and storage
464	EGGLESTON AND 3RD F. DIV. DAM	Ohio River	MILL-2	Optimization	X	—	X	X	X	Y	Consolidation for storage/treatment of 464 & 461
466	EGGLESTON AND 3RD E. DIV. DAM	Ohio River	MILL-2	Constructed/identified post-1996. Sep. to be considered.	X	—	•	•	X	NA	If not eliminating by separation, consider HRT and storage
461	EGGLESTON AND 4TH DIV. DAM SLUICE	Ohio River	MILL-2	HWIDW Improvement	X	—	X	X	X	Y	Consolidation for storage/treatment of 464 & 461
460	BUTLER ST. DIV. DAM	Ohio River	MILL-2	HWIDW Improvement	X	—	•	•	X	Y	If not eliminating by separation, consider HRT and storage
449	PIKE ST. DIV. DAM	Ohio River	MILL-2	HWIDW Improvement	X	—	•	•	X	Y	If not eliminating by separation, consider HRT and storage
447	RIVERFRONT COLISEUM REGULATOR	Ohio River	MILL-2	HWIDW Improvement	X	—	•	•	X	Planned	If not eliminating by separation, consider HRT and storage
438	CENTRAL AVE. GRATING	Ohio River	MILL-3	HWIDW Improvement	X	—	•	X	X	Y	Consider HRT and storage.
437	SMITH ST. REGULATOR	Ohio River	MILL-4	HWIDW Improvement	X	—	•	•	X	Planned	If not eliminating by separation, consider HRT and storage
436	GEST AND FRONT REGULATOR	Ohio River	MILL-4	HWIDW Improvement	X	—	X	X	X	Y	Consolidation for storage/treatment of 436 & 436
436	BAYMILLER ST. REGULATOR	Ohio River	MILL-4	HWIDW Improvement	X	—	X	X	X	Y	Consolidation for storage/treatment of 436 & 435
434	CARR AND FRONT DIV. DAM	Ohio River	MILL-4	HWIDW Improvement	X	—	•	•	X	Y	If not eliminating by separation, consider HRT and storage
433	CARR ST. REGULATOR	Ohio River	MILL-4	HWIDW Improvement	X	—	•	•	X	Y	If not eliminating by separation, consider HRT and storage.
422	MT. ECHO RD. REGULATOR	Ohio River	MILL-5	HWIDW Improvement	X	—	X	X	X	Y	Consolidation for storage/treatment of 422, 423, 424 & 425B
423	MT. HOPE AVE. REGULATOR	Ohio River	MILL-5	HWIDW Improvement	X	—	X	X	X	Y	Consolidation for storage/treatment of 422, 423, 424 & 425B
424	RIVER RD. @ STATE DIV. DAM	Ohio River	MILL-5	HWIDW Improvement	X	—	X	X	X	Y	Consolidation for storage/treatment of 422, 423, 424 & 425B
427	PERIN AND EVANS DIV. DAM SLUICE	Ohio River	MILL-5	HWIDW Improvement	X	—	•	•	X	Under Const.	If not eliminating by separation, consider HRT and storage
668	EVANS AND 6TH STREET DIVERSION DAM	Ohio River	MILL-5	Constructed/identified post-1996. Sep. to be considered.	X	—	•	•	X		If not eliminating by separation, consider HRT and storage.

X Included in 1996 LTCP. Included in update.
 — Not included in Update.
 • See "Other" alternatives for this CSO
 Note - Separation infers both street-level and complete separation.

EXHIBIT 4, ATTACHMENT A-1 - MILL CREEK DRAINAGE AREA ALTERNATIVES

CSO	Location	Receiving Water	Alternative Group No.	Alternatives To Be Evaluated							
				Base Assumption	SEPELIM	MILL CRK TUNNEL	CONSOL / HRT	CONSOL / STORE	SCREEN / OPTIM	HWIDW	OTHER
426B	STATE AVE. DIV. DAM	Ohio River	MILL-5	HWIDW Improvement	X	—	X	X	X	Y	Consolidation for storage/treatment of 422, 423, 424 & 426B
426A	EVANS AND RIVER RD. #1 DIV. DAM	Ohio River	MILL-5	HWIDW Improvement	X	—	•	•	X	Planned	If not eliminating by separation, consider HRT and storage
426B	EVANS AND RIVER RD. #2 DIV. DAM	Ohio River	MILL-5	HWIDW Improvement	X	—	•	•	X	Planned	If not eliminating by separation, consider HRT and storage.
419	BOLD FACE SR. DIV. DAM	Ohio River	MILL-6	HWIDW Improvement	X	—	X	X	X	Y	Storage/treatment of 419
420	DELHI AVE. DIV. DAM	Ohio River	MILL-6	Optimization	X	—	•	•	X	NA	If not eliminating by separation, consider HRT and storage
421	RIVER ROAD @ DELHI DIV. DAM	Ohio River	MILL-6	Optimization	X	—	•	•	X	NA	If not eliminating by separation, consider HRT and storage.
428	SOUTH ST. REGULATOR	Mill Creek	MILL-7	HWIDW Improvement	X	X	X	X	X	Y	Consolidation for storage/treatment of 428 & 429
429	GEST ST. EAST DIV. DAM	Mill Creek	MILL-7	HWIDW Improvement	X	X	•	X	X	Y	Consolidation for storage/treatment of 428 & 429
2	LIBERTY ST. REGULATOR	Mill Creek	MILL-8	Optimization	X	X	X	X	X	Y	Storage/treatment of 2
182	FITZPATRICK ST. REGULATOR	Mill Creek	MILL-8	Optimization	X	—	•	•	X	Y	If not eliminating by separation, consider HRT and storage
430	GEST ST. WEST-2-A DIV. DAM	Mill Creek	MILL-9	Pumped Storage CSO 430, 431A, 432, 489, 666	X	X	X	X	X	Y	Consolidation for storage/treatment of 430, 432, 489, 666 & 431A
432	9TH AND MCLEAN DIV. DAM	Mill Creek	MILL-9	Pumped Storage CSO 430, 431A, 432, 489, 666	X	X	•	X	X	Y	Consolidation for storage/treatment of 430, 432, 489, 666 & 431A
489	7TH AND MCLEAN DIV. DAM	Ohio River	MILL-9	Pumped Storage CSO 430, 431A, 432, 489, 666	X	X	•	X	X	Y	Consolidation for storage/treatment of 430, 432, 489, 666 & 431A
666	MCLEAN AND LIBERTY ST. DIVERSION DAM	Mill Creek	MILL-9	Pumped Storage CSO 430, 431A, 432, 489, 666	X	X	X	X	X	Y	Consolidation for storage/treatment of 430, 432, 489, 666 & 431A
431A	MCLEAN STREET DIVERSION DAM	Ohio River	MILL-9	Pumped Storage CSO 430, 431A, 432, 489, 666	X	X	X	X	X	Y	Consolidation for storage/treatment of 430, 432, 489, 666 & 431A
3	HARRISON AND STATE WEST REGULATOR	Mill Creek	MILL-10	Optimization	X	X	X	X	X	Planned	Consolidation for storage/treatment of 3, 4, 5, 6 & 7
4	HARRISON AND STATE EAST REGULATOR	Mill Creek	MILL-10	Optimization	X	X	X	X	X	Planned	Consolidation for storage/treatment of 3, 4, 5, 6 & 7
5	LICK RUN REGULATOR	Mill Creek	MILL-10	HRT	X	X	X	X	X	Y	Consolidation for storage/treatment of 3, 4, 5, 6 & 7
6	QUEEN CITY EAST REGULATOR	Mill Creek	MILL-10	Optimization	X	X	X	X	X	Y	Consolidation for storage/treatment of 3, 4, 5, 6 & 7
7	DRAPER ST. REGULATOR	Mill Creek	MILL-10	Optimization	X	X	X	X	X	Y	Consolidation for storage/treatment of 3, 4, 5, 6 & 7
8	VINTON ST. REGULATOR	Mill Creek	MILL-11	Optimization	X	X	•	•	X	Y	Consolidation for storage/treatment of 3, 4, 5, 6 & 7
9	MARSHALL AVE. REGULATOR	Mill Creek	MILL-11	HRT	X	X	X	X	X	Y	If not eliminating by separation, consider HRT and storage
10	DENHAM ST. REGULATOR	Mill Creek	MILL-12	HRT	X	X	X	X	X	Y	Storage/treatment of 9
11	HOPPLE ST. REGULATOR	Mill Creek	MILL-12	Optimization	X	X	•	•	X	Y	Storage/treatment of 10
12	BATES RUN REGULATOR	Mill Creek	MILL-13	HRT	X	X	X	X	X	Y	If not eliminating by separation, consider HRT and storage
13	YONKERS ST. REGULATOR	Mill Creek	MILL-13	Optimization	X	X	X	X	X	Y	Consolidation for storage/treatment of 12 & 13
14	STATION 15 REGULATOR	Mill Creek	MILL-14	Optimization	X	X	X	X	X	NA	Consolidation for storage/treatment of 12 & 13
15	ARLINGTON ST. REGULATOR	Mill Creek	MILL-14	Optimization	X	X	X	X	X	Y	Consolidation for storage/treatment of 14 & 15
89	MONTANA GRATING	West Fork Mill Creek	MILL-15	Optimization	X	X	X	X	X	Y	Consolidation for storage/treatment of 14 & 15
123	HOFFNER GRATING	West Fork Mill Creek	MILL-15	Separation	X	X	•	•	X	NA	If not eliminating by separation, consider HRT and storage.
126	BADGELEY RUN GRATING	West Fork Mill Creek	MILL-15	Separation CSO 123, 527A	X	X	•	•	X	NA	If not eliminating by separation, consider HRT and storage.
126	TODD #1 GRATING	West Fork Mill Creek	MILL-15	Consolidate CSO 126, 128 to HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 126, 128, 130, 203 & 117A
127	HAYS GRATING	West Fork Mill Creek	MILL-15	Consolidate CSO 126, 128 to HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 126, 128, 130, 203 & 117A
				Separation	X	X	•	•	X	NA	If not eliminating by separation, consider HRT or storage.

X Included in 1996 LTCP. Included in update.
 — Not included in Update.
 • See "Other" alternatives for this CSO
 Note - Separation implies both street-level and complete separation.

EXHIBIT 4, ATTACHMENT A-1 - MILL CREEK DRAINAGE AREA ALTERNATIVES

CSO	Location	Receiving Water	Alternative Group No.	Base Assumption	SEPIELIM	MILL CRK TUNNEL	CONSOL / HRT	CONSOL / STORE	SCREEN / OPTIM	HW/DW	OTHER
128	TODD #2 GRATING	West Fork Mill Creek	MILL-15	Separation	X	X	*	*	X	NA	If not eliminating by separation, consider HRT or storage.
130	BUTTE GRATING	West Fork Mill Creek	MILL-15	Consolidate CSO 130,203 to HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 125, 126, 130, 203 & 117A
203	TWIN GRATING	West Fork Mill Creek	MILL-15	Consolidate CSO 130,203 to HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 125, 126, 130, 203 & 117A
117A	DREMAN GRATING	West Fork Mill Creek	MILL-15	HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 125, 126, 130, 203 & 117A
527A	POWERS #1 GRATING	West Fork Mill Creek	MILL-15	Separation	X	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
528A	BEEKMAN NORTH GRATING	West Fork Mill Creek	MILL-15	Separation	X	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
528B	BEEKMAN SOUTH GRATING	West Fork Mill Creek	MILL-15	Separation	X	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
529B	LIWELLEN GRATING	West Fork Mill Creek	MILL-15	Separation	X	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
18	COLERAIN AVE. DIV. DAM	Mill Creek	MILL-16	Optimization	X	X	X	X	X	NA	Consolidation for storage/treatment of 16, 21 & 17B
19	GERINGER ST. GRATING	Mill Creek	MILL-16	Optimization	X	X	*	*	X	NA	If not eliminating by separation, consider HRT or storage
21	STRENG ST. DIV. DAM	Mill Creek	MILL-16	HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 16, 21 & 17B
17B	DREMAN AVE.DIV. DAM	Mill Creek	MILL-16	Optimization	X	X	X	X	X	NA	Consolidation for storage/treatment of 16, 21 & 17B
194	HIGHPOINT GRATING	Tributary of West Fork	MILL-17	Separation	X	—	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
196	WESTWOOD NORTHERN GRATING	Tributary of West Fork	MILL-17	Separation	X	—	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
525	MT. AIRY GRATING	Tributary of West Fork	MILL-17	Separation	X	—	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
161	GROESBECK GRATING	Ludlow Run	MILL-18	Relief Sewer CSO 109,151,162,165	X	X	X	X	X	NA	Consolidation for storage/treatment of 151, 109, 110, 112, 165, 162, 22, 23, 24 & 179
109	HILLCREST NORTH GRATING	Ludlow Run	MILL-18	Relief Sewer CSO 109,151,162,165	X	X	X	X	X	NA	Consolidation for storage/treatment of 151, 109, 110, 112, 165, 162, 22, 23, 24 & 179
110	4710 HOWARD GRATING	Ludlow Run	MILL-18	Relief Sewer	X	X	X	X	X	NA	Consolidation for storage/treatment of 151, 109, 110, 112, 165, 162, 22, 23, 24 & 179
112	1547 SPRINGLAWN GRATING	Ludlow Run	MILL-18	Relief Sewer	X	X	X	X	X	NA	Consolidation for storage/treatment of 151, 109, 110, 112, 165, 162, 22, 23, 24 & 179
165	SPRINGLAWN @ BRIDGE GRATING	Ludlow Run	MILL-18	Relief Sewer CSO 109,151,162,165	X	X	X	X	X	NA	Consolidation for storage/treatment of 151, 109, 110, 112, 165, 162, 22, 23, 24 & 179
162	THOMPSON HEIGHTS GRATING	Ludlow Run	MILL-18	Relief Sewer CSO 109,151,162,165	X	X	X	X	X	NA	Consolidation for storage/treatment of 151, 109, 110, 112, 165, 162, 22, 23, 24 & 179
22	LUDLOW AVE. REGULATOR	Mill Creek	MILL-18	HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 151, 109, 110, 112, 165, 162, 22, 23, 24 & 179
23	ALIBONE ST. REGULATOR	Mill Creek	MILL-18	Consolidate CSO 23,24 to HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 151, 109, 110, 112, 165, 162, 22, 23, 24 & 179
24	LUDLOW RUN REGULATOR	Mill Creek	MILL-18	Consolidate CSO 23,24 to HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 151, 109, 110, 112, 165, 162, 22, 23, 24 & 179
179	SCARLET OAKS REGULATOR	Mill Creek	MILL-18	Express Sewer	X	X	X	X	X	Planned	Consolidation for storage/treatment of 151, 109, 110, 112, 165, 162, 22, 23, 24 & 179
28	CLIFTON AVE. EAST GRATING	Mill Creek	MILL-19	Consolidate CSO 28,30,482 to HRT	X	X	X	X	X	Planned	Consolidation for storage/treatment of 151, 109, 110, 112, 165, 162, 22, 23, 24 & 179
29	DONNELL ST. GRATING	Mill Creek	MILL-19	Regulator Improvement	X	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage
30	LAFAYETTE CR. GRATING	Mill Creek	MILL-19	Consolidate CSO 28,30,482 to HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 28, 29, 30, 480, 481 & 25A
480	CLIFTON AVENUE WEST GRATING	Mill Creek	MILL-19	Optimization	X	X	X	X	X	NA	Consolidation for storage/treatment of 28, 29, 30, 480, 481 & 25A
481	MITCHELL AND SPRING GROVE DIV. DAM	Mill Creek	MILL-19	Optimization	X	X	X	X	X	NA	Consolidation for storage/treatment of 28, 29, 30, 480, 481 & 25A
26A	WINTON RD. A REGULATOR	Mill Creek	MILL-19	Separation	X	X	X	X	X	NA	Consolidation for storage/treatment of 28, 29, 30, 480, 481 & 25A
26A	STATION AVE. A DIV. DAM	Mill Creek	MILL-19	Separation	X	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage
482	MITCHELL AVE. REGULATOR	Mill Creek	MILL-20	Consolidate CSO 28,30,482 to HRT	X	X	X	X	X	NA	Storage/Treatment of 482

X Included in 1996 LTCP. Included in update.
 — Not included in Update.
 See "Other" alternatives for this CSO
 Note - Separation implies both street-level and complete separation.

EXHIBIT 4, ATTACHMENT A-1 - MILL CREEK DRAINAGE AREA ALTERNATIVES

CSO	Location	Receiving Water	Alternative Group No.	Alternatives To Be Evaluated							
				Base Assumption	SEPIELIM	MILL CRK TUNNEL	CONSOL / HRT	CONSOL / STORE	SCREEN / OPTIM	HW/DW	OTHER
217A	WOODEN SHOE REGULATOR	Kings Run	MILL-21	Sewer Extension	X	X	X	X	X	NA	Consolidation for storage/treatment of 217A, 483, 485, 486 & 33
483	KINGS RUN REGULATOR	Mill Creek	MILL-21	HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 217A, 483, 485, 486 & 33
486	KINGS RUN AND SPRING GROVE DIV. DAM	Mill Creek	MILL-21	Optimization	X	X	.	X	X	NA	Consolidation for storage/treatment of 217A, 483, 485, 486 & 33
486	ROSS RUN REGULATOR	Mill Creek	MILL-21	Separation	X	X	.	.	X		If not eliminating by separation, consider HRT or storage
33	BANK AVE. REGULATOR	Mill Creek	MILL-21	Express Sewer	X	X	X	X	X	NA	Consolidation for storage/treatment of 217A, 483, 485, 486 & 33
487	ROSS RUN GRATING	Mill Creek	MILL-22	HRT	X	X	X	X	X	NA	Storage/Treatment of 487
181	BLOODY RUN REGULATOR	Bloody Run Creek	MILL-23	Consolidate CSO 181, 544, 653 to HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 181 & 544
544	VINE ST. DIV. DAM	Bloody Run Creek	MILL-23	Consolidate 181, 544, 653 to HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 181 & 544
653	MURRAY RD. DIV. DAM	Bloody Run Creek	MILL-23	Consolidate 181, 544, 653 to HRT	X	X	.	.	X	NA	If not eliminating by separation, consider HRT and storage
655	25 SPRUCE DIV. DAM	Mill Creek	MILL-24	Separation	X	—	.	.	X	NA	If not eliminating by separation, consider HRT and storage.
37	MAPLE ST. DIV. DAM	Mill Creek	MILL-25	Separation	X	X	.	.	X	NA	If not eliminating by separation, consider HRT and storage
39	64TH ST. DIV. DAM	Mill Creek	MILL-25	Express Sewer	X	X	.	.	X	NA	If not eliminating by separation, consider HRT and storage.
488	60TH ST. DIV. DAM	Mill Creek	MILL-25	HRT	X	X	X	X	X	NA	Storage/Treatment of 488
53	HARVEST AND KINCAID GRATING	Amberly Creek	MILL-26	Separation	X	—	.	.	X	NA	If not eliminating by separation, consider HRT and storage
505	BEREDITH AND KINCAID	Tributary of Mill Creek	MILL-26	Separation	X	—	.	.	X	NA	If not eliminating by separation, consider HRT and storage.
506	6536 CLIFFRIDGE GRATING	Tributary of Mill Creek	MILL-26	Separation	X	—	.	.	X	NA	If not eliminating by separation, consider HRT and storage
651	RIDGE @ LAKEVIEW DIV. DAM	Tributary of Mill Creek	MILL-26	Separation	X	—	.	.	X	NA	If not eliminating by separation, consider HRT and storage.
191	7601 PRODUCTION DR. GRATING	Tributary of Mill Creek	MILL-27	Separation	X	—	.	.	X	NA	If not eliminating by separation, consider HRT and storage
171	VINE AND DECAW DIV. DAM	Mill Creek	MILL-28	Express Sewer	X	X	.	.	X	NA	If not eliminating by separation, consider HRT and storage
490	LOCKLAND HIGHWAY GRATING	Mill Creek	MILL-28	Separation	X	X	.	.	X	NA	If not eliminating by separation, consider HRT and storage.
535	146 RIDGEWAY GRATING	Cilley Creek	MILL-29	Separation	X	—	.	.	X	NA	If not eliminating by separation, consider HRT and storage
537	#41 SHERRY GRATING	Cilley Creek	MILL-30	Separation	X	—	.	.	X	NA	If not eliminating by separation, consider HRT and storage.
560	60 ST. CLAIR GRATING	Cilley Creek	MILL-30	Separation/Private	X	—	.	.	X	NA	If not eliminating by separation, consider HRT and storage.
226	OXLEY GRATING	West Branch Mill Creek	MILL-31	Regulator Improvement	X	X	X	X	X	NA	Consolidation for storage/treatment of 226, 507, 508 & 570
507	214 CLARK ST. GRATING	Mill Creek	MILL-31	HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 226, 507, 508 & 570
508	245 CLARK ST. OVERFLOW	Mill Creek	MILL-31	Express Sewer	X	X	X	X	X	NA	Consolidation for storage/treatment of 226, 507, 508 & 570
562	428 SOUTH COOPER GRATING	West Branch Mill Creek	MILL-31	Optimization	X	X	.	.	X	NA	If not eliminating by optimization, consider HRT and storage.
570	MERRELL / DOW OVERFLOW	Mill Creek	MILL-31	Constructed/identified post-1996. Sep. to be considered.	X	X	X	X	X	NA	Consolidation for storage/treatment of 226, 507, 508 & 570
559	914 OAK ST. GRATING	West Branch Mill Creek	MILL-32	Consolidate 538, 539, 559 to HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 559, 539, 538, 516 & 515
539	117 E. CHARLOTTE GRATING	West Branch Mill Creek	MILL-32	Consolidate 538, 539, 559 to HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 559, 539, 538, 516 & 515
538	#96 NORTH PARK GRATING	West Branch Mill Creek	MILL-32	Consolidate 538, 539, 559 to HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 559, 539, 538, 516 & 515
516	BACON ST. GRATING	West Branch Mill Creek	MILL-32	Separation	X	X	X	X	X	NA	Consolidation for storage/treatment of 559, 539, 538, 516 & 515
515	200' WEST OF BACON ST. GRATING	West Branch Mill Creek	MILL-32	Separation	X	X	X	X	X	NA	Consolidation for storage/treatment of 559, 539, 538, 516 & 515

X Included in 1996 LTCP. Included in update.
 — Not included in Update.
 * See "Other" alternatives for this CSO
 Note - Separation inlets both street-level and complete separation.

EXHIBIT 4, ATTACHMENT A-1 - MILL CREEK DRAINAGE AREA ALTERNATIVES

CSO	Location	Receiving Water	Alternative Group No.	Alternatives To Be Evaluated							
				Base Assumption	SEPIELIM	MILL CRK TUNNEL	CONSOL / HRT	CONSOL / STORE	SCREEN / OPTIM	HWDW	OTHER
512	MILL AND VINE GRATING	Mill Creek	MILL-32	Express Sewer + Separation	X	X	.	.	X	NA	If not eliminating by separation, consider HRT and storage
511	531 DAVIS GRATING	Mill Creek	MILL-32	Separation	X	X	.	.	X	NA	If not eliminating by separation, consider HRT and storage.
510A	SOUTHERN AVE. GRATING	Mill Creek	MILL-32	Separation	X	X	.	.	X	NA	If not eliminating by separation, consider HRT and storage
509	GERBERT STREET		MILL-32	Separation	X	X	.	.	X	NA	If not eliminating by separation, consider HRT and storage.
513	BERNARD AND REISENBERG GRATING	Mill Creek	MILL-33	Separation	X	X	.	.	X	NA	If not eliminating by separation, consider HRT and storage.
514	150' NORTH OF SMALLEY GRATING	Mill Creek	MILL-33	Separation	X	X	.	.	X	NA	If not eliminating by separation, consider HRT and storage.
532	DAILY RD. VORTEX SEPARATOR	Compton Creek	MILL-34	Vortex Separator	X	—	.	.	X	NA	Consider facility upgrade, including higher level disinfection.
536	6246 MARIE GRATING	Compton Creek	MILL-35	Discharges to 532	—	—	.	.		NA	If not eliminating by separation, consider HRT and storage
180	BLUE ROCK REGULATOR	West Branch Mill Creek	MILL-36	Separation	X	—	.	.	X	NA	If not eliminating by separation, consider HRT and storage.
1	GEST STREET			ELIMINATED							
120	SYLVAN SOUTH			ELIMINATED							
121	SYLVAN AVENUE N			ELIMINATED							
174	SOUTH HAYES			ELIMINATED							
210	DUNAWAY-VEAZEY			ELIMINATED							
417	BOLD FACE #3			ELIMINATED							
418	RIVER ROAD A			ELIMINATED							
442	VINE STREET / BENGAL DRIVE			ELIMINATED							
446	RIVERFRONT STADIUM REGULATOR			ELIMINATED							
453	COLLARD STREET EAST			ELIMINATED							
517	510 SOUTH COOPER GRATING			ELIMINATED							
542	BOLD FACE			ELIMINATED							
546	VEAZEY			ELIMINATED							
548	RIVERFRONT COLISEUM REGULATOR			(SEE CSO 417)							
561	STATION AVE. #2			ELIMINATED							
659	CENTRAL AVE. N. OF PRODUCE ALLEY			ELIMINATED							
661	PLUM STREET @ CORRIGAN ALLEY			ELIMINATED							
662	PLUM STREET @ PRODUCE ALLEY			ELIMINATED							
663	PLUM STREET N OF PRODUCE ALLEY			ELIMINATED							
28B	WINTON ROAD			ELIMINATED							
28B	STATION AVE DIVERSION MANHOLE			ELIMINATED							
426A	STATE ROAD A			ELIMINATED							
466W	EGGLESON AND PETE ROSE WAY DIV. DAM			ELIMINATED							
510B	SOUTHERN AVENUE			ELIMINATED							

X Included in 1996 LTCP. Included in update.
 — Not included in Update.
 . See "Other" alternatives for this CSO
 Note - Separation infers both street-level and complete separation.

EXHIBIT 4, ATTACHMENT A-1 - MILL CREEK DRAINAGE AREA ALTERNATIVES

CSO	Location	Receiving Water	Alternative Group No.	Alternatives To Be Evaluated							
				Base Assumption	SEPIELIM	MILL CRK TUNNEL	CONSOL / HRT	CONSOL / STORE	SCREEN / OPTIM	HWDW	OTHER
527B	POWERS #2			ELIMINATED							
527C	POWERS SOUTH #3			ELIMINATED							
558A	PROCTER & GAMBLE #1			ELIMINATED							
558B	PROCTER & GAMBLE #2			ELIMINATED							
559C	P & G #3 REGULATOR			PRIVATE/SEPARATE	X	-	-	-	X	-	
558D	PROCTER & GAMBLE #4			ELIMINATED							
640E	CENTRAL AVE @ PRODUCE ALLEY E			ELIMINATED							
680W	CENTRAL AVE @ PRODUCE ALLEY W			ELIMINATED							

X Included in 1996 LTCP. Included in update.
 - Not included in Update.
 * See "Other" alternatives for this CSO
 Note - Separation means both areat-level and complete separation.

EXHIBIT 4, ATTACHMENT A-2 - MUDDY CREEK DRAINAGE AREA ALTERNATIVES

CSO	Location	Receiving Water	Alternative Group No.	Alternatives To Be Evaluated						
				Base Assumption	SEP/ELIM	CONSOL / HRT	CONSOL / STORE	SCREEN / OPTIM	HW/DW	OTHER
402	TOPINABEE RD. DIV. DAM	Ohio River	MUD-1	HW/DW Improvements	X	•	•	X	Y	If not eliminating by separation, consider HRT and storage
403	ELCO ST. DIV. DAM	Ohio River	MUD-1	HW/DW Improvements	X	•	•	X	Y	If not eliminating by separation, consider HRT and storage
404	IVANHOE ST. DIV. DAM	Ohio River	MUD-1	HW/DW Improvements	X	•	•	X	Y	If not eliminating by separation, consider HRT and storage
406	REVERE ST. DIV. DAM	Ohio River	MUD-1	HW/DW Improvements	X	•	•	X	Y	If not eliminating by separation, consider HRT and storage
406	KENNEBEC ST. DIV. DAM	Ohio River	MUD-1	HW/DW Improvements	X	•	•	X	Y	If not eliminating by separation, consider HRT and storage
223	FOLEY RD. DIV. DAM	Ohio River	MUD-2	HW/DW Improvements	X	•	•	X	Y	If not eliminating by separation, consider HRT and storage
408	WOCHER ST. DIV. DAM	Ohio River	MUD-2	HW/DW Improvements	X	•	•	X	Y	If not eliminating by separation, consider HRT and storage
409	RIVER TRANSPORTATION	Ohio River	MUD-2	Eliminated	---	---	---	---	---	
410	FENIMORE ST. DIV. DAM	Ohio River	MUD-2	HW/DW Improvements	X	•	•	X	Y	If not eliminating by separation, consider HRT and storage
411	ANDERSON FERRY RD. DIV. DAM	Ohio River	MUD-2	HW/DW Improvements	X	•	•	X	Y	If not eliminating by separation, consider HRT and storage
412	COLAFAX ST. DIV. DAM	Ohio River	MUD-2	HW/DW Improvements	X	•	•	X	Y	If not eliminating by separation, consider HRT and storage
413	TYLER ST. DIV. DAM	Ohio River	MUD-2	HW/DW Improvements	X	•	•	X	Y	If not eliminating by separation, consider HRT and storage
414	MCGINNIS ST. DIV. DAM	Ohio River	MUD-2	HW/DW Improvements	X	•	•	X	Y	If not eliminating by separation, consider HRT and storage
416	FITHIAN ST. DIV. DAM	Ohio River	MUD-2	HW/DW Improvements	X	•	•	X	Y	If not eliminating by separation, consider HRT and storage
416	IDAHO ST. DIV. DAM	Ohio River	MUD-2	HW/DW Improvements	X	•	•	X	Y	If not eliminating by separation, consider HRT and storage
541	5676 RIVER RD. DIV. DAM	Ohio River	MUD-2	HW/DW Improvements	X	•	•	X	Y	If not eliminating by separation, consider HRT and storage
664	STILLE DR. DIV. DAM	Ohio River	MUD-2	HW/DW Improvements	X	•	•	X	Y	If not eliminating by separation, consider HRT and storage
523	RAPID RUN AND DEVILS BACKBONE GRATING	Rapid Run	MUD-3	HRT	X	X	X	X	NA	Evaluate Storage/Treatment
198	MUDDY CREEK @ WESTBOURNE GRATING	Muddy Creek	MUD-4	HRT	X	X	X	X	NA	Existing Facility - Evaluate provision of disinfection at higher levels of control
518	MUDDY CR. (WEST OF SIDNEY) GRATING	Muddy Creek	MUD-5	HRT	X	X	X	X	NA	Evaluate Storage/Treatment
521	GLENWAY & WESTBOURNE	Muddy Creek		Eliminated	X	---	---	---	---	
522	WERK AND WESTBOURNE GRATING	Muddy Creek	MUD-6	HRT	X	X	X	X	NA	Evaluate Storage/Treatment
520	ROBB AND WEST ST. GRATING	Muddy Creek	MUD-7	To CSO 522	X	---	---	---	NA	Elimination by relocation to CSO 522 assumed; If not, consider sep./HRT/Storage
637	CARRIE @ McFARREN GRATING	Muddy Creek	MUD-8	To CSO 522	X	---	---	---	NA	Elimination by relocation to CSO 522 assumed; if not, consider sep./HRT/Storage

X Included in 1996 LTCP. Included in Update.
 --- Not Included in Update.
 . See "Other" alternatives for this CSO.
 Note - Separation infers both street-level and complete separation.

EXHIBIT 4, ATTACHMENT A -3 - LITTLE MIAMI DRAINAGE AREA ALTERNATIVES

CSO	Location	Receiving Water	Alternative Group No.	Alternatives To Be Evaluated						
				Base Assumption	SEP/ELIM	CONSOL / HRT	CONSOL / STORE	SCREEN / OPTIM	HW/DW	OTHER
857	CORBIN ST. DIV. DAM	Ohio River	LIT-1	HW/DW Improvements	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
467	DELTA AVE. WEST REGULATOR	Ohio River	LIT-1	HW/DW Improvements	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
468	DELTA AVE. EAST REGULATOR	Ohio River	LIT-1	HW/DW Improvements	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
467A	DELTA AND HUMBERT DIV. DAM	Ohio River	LIT-1	Consolidate to CSO 467	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
469	DELTA @ EASTERN DIV. DAM	Ohio River	LIT-1	Relief Sewer + HW/DW Improvements	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
669	KELLOGG, WEST OF WILMER	Ohio River	LIT-2	HW/DW Improvements	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
182	BERKSHIRE REGULATOR	Trib of Clough Creek	LIT-3	HRT	X	X	X	X	NA	
476	CLOUGH CR. DIV. DAM	Clough Creek	LIT-4	HW/DW Modification	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
470	EASTERN AVE. GRATING	Little Miami River	LIT-5	Regulator Improvement	X	X	X	X	NA	
471	GRANDIN ROAD GRATING	Little Miami River	LIT-5	Regulator Improvement	X	X	X	X	NA	
472	TURPIN ST. DIV. DAM	Duck Creek	LIT-6	HW/DW Impr. + Turpin St. HRT	X	X	X	X	Y	
86	5150 WOOSTER PIKE GRATING	Duck Creek	LIT-7	Regulator + HW/DW Improvements	X	X	X	X	Y	
86	ARCHER ST. DIV. DAM	Duck Creek	LIT-7	HW/DW Improvements	X	X	X	X	Y	
666	WOOSTER @ RED BANK DIV. DAM	Little Miami River	LIT-8	NA	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage
503	ZAEH RD. GRATING	Duck Creek	LIT-9	Regulator Improvement	X	X	X	X	NA	
84	OLD RED BANK RD. GRATING	Duck Creek	LIT-9	Regulator Improvement	X	X	X	X	NA	
83	3675 FOREST HILLS GRATING	Duck Creek	LIT-9	Regulator Improvement	X	X	X	X	NA	
199	FORD GATE GRATING	Duck Creek	LIT-10	Regulator Improvement	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage
80	BROTHERTON RD. GRATING	Duck Creek	LIT-11	Regulator Improvement	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage
136	3979 ROSSLYN DR. GRATING	Trib of Duck Creek	LIT-12	HRT	X	X	X	X	NA	
84	END OF HARROW ST. DIV. DAM	Duck Creek	LIT-13	Regulator Improvement	X	X	X	X	NA	
205	CAMBERWELL AVE. DIV. DAM	Duck Creek	LIT-13	Regulator Improvement	X	X	X	X	NA	
188	3648 MADISON RD. DIV. DAM	Duck Creek	LIT-13	Regulator Improvement	X	X	X	X	NA	
61	4730 MADISON AVE. GRATING	Duck Creek	LIT-13	Regulator Improvement	X	X	X	X	NA	
43	5249 CHARLOE ST. GRATING	Duck Creek	LIT-14	Regulator Improvement + Upper Duck Creek HRT	X	X	X	X	NA	Consider consolidation with 43,214,553,552,551,170,500,501,550,549
214	YONONTE CR. GRATING	Tributary of Duck Creek	LIT-14	Regulator Improvement + Upper Duck Creek HRT	X	X	X	X	NA	Consider consolidation with 43,214,553,552,551,170,500,501,550,549
553	NORTH TERM. MARBURG RD. REGULATOR	Duck Creek	LIT-14	Regulator Improvement + Upper Duck Creek HRT	X	X	X	X	NA	Consider consolidation with 43,214,553,552,551,170,500,501,550,549
552	I-71 WEST OF MARBURG REGULATOR	Duck Creek	LIT-14	Regulator Improvement + Upper Duck Creek HRT	X	X	X	X	NA	Consider consolidation with 43,214,553,552,551,170,500,501,550,549
551	I-71 OPP. LESTER RD. REGULATOR	Duck Creek	LIT-14	Regulator Improvement + Upper Duck Creek HRT	X	X	X	X	NA	Consider consolidation with 43,214,553,552,551,170,500,501,550,549
170	NORWOOD INCINERATOR GRATING	Duck Creek	LIT-14	Regulator Improvement + Upper Duck Creek HRT	X	X	X	X	NA	Consider consolidation with 43,214,553,552,551,170,500,501,550,549

X Included in 1998 LTCP, included in Update.
 - Not included in Update.
 * See "Other" alternatives for this CSO.
 Note - Separation refers both street-level and complete separation.
 Note - UDC consolidation may involve "Waters" issues.

EXHIBIT 4, ATTACHMENT A -3 - LITTLE MIAMI DRAINAGE AREA ALTERNATIVES

CSO	Location	Receiving Water	Alternative Group No.	Alternatives To Be Evaluated						
				Base Assumption	SEP/ELIM	CONSOL / HRT	CONSOL / STORE	SCREEN / OPTIM	HWDW	OTHER
500	ROBERTSON SOUTH OF I-71 GRATING	Duck Creek	LIT-14	Regulator Improvement + Upper Duck Creek HRT	X	X	X	X	NA	Consider consolidation with 43,214,553,552,551,170,500,501,550,549
501	4325 28TH ST. GRATING	Duck Creek	LIT-14	Regulator Improvement + Upper Duck Creek HRT	X	X	X	X	NA	Consider consolidation with 43,214,553,552,551,170,500,501,550,549
550	NORTH TERM. EDWARDS RD. REGULATOR	Duck Creek	LIT-14	Regulator Improvement + Upper Duck Creek HRT	X	X	X	X	NA	Consider consolidation with 43,214,553,552,551,170,500,501,550,549
549	WILLIAMS AND DUCK CR. REGULATOR	Duck Creek	LIT-14	Regulator Improvement + Upper Duck Creek HRT	X	X	X	X	NA	Consider consolidation with 43,214,553,552,551,170,500,501,550,549
54	LAVDALE GRATING	Duck Creek	LIT-14	Regulator Improvement + Upper Duck Creek HRT	X	X	X	X	NA	Consider consolidation with 187 to Upper Duck Creek HRT/Storage
187	5637 LESTER RD. GRATING	Tributary of Duck Creek	LIT-14	Regulator Improvement + Upper Duck Creek HRT	X	X	X	X	NA	Consider consolidation with 54 to Upper Duck Creek HRT/Storage
135	1351 KENNEDY AVENUE GRATING	Trib of Duck Creek	LIT-15	Regulator Improvement	X	—	—	X	NA	If not eliminating by separation, consider HRT and storage
79	SOUTHERN AVE. GRATING	Little Duck Creek	LIT-16	Static Screens	X	•	•	X	NA	If not eliminating by separation, consider HRT and storage
78	3980 SOUTH WHETSEL GRATING	Little Duck Creek	LIT-16	Static Screens	X	•	•	X	NA	If not eliminating by separation, consider HRT and storage
76	BRAMBLE AND HOMER GRATING	Little Duck Creek	LIT-16	Static Screens	X	•	•	X	NA	If not eliminating by separation, consider HRT and storage
76	6337 ROE ST. GRATING	Little Duck Creek	LIT-16	Static Screens	X	•	•	X	NA	If not eliminating by separation, consider HRT and storage
74	6402 ROE ST. GRATING	Little Duck Creek	LIT-16	Static Screens	X	•	•	X	NA	If not eliminating by separation, consider HRT and storage
72	4800 JAMESON GRATING	Little Duck Creek	LIT-16	Static Screens	X	•	•	X	NA	If not eliminating by separation, consider HRT and storage
71	PLAINVILLE AND INDIAN HILL GRATING	Little Duck Creek	LIT-16	Express Sewer	X	•	•	X	NA	If not eliminating by separation, consider HRT and storage
70	PLAINVILLE NORTH OF INDIAN HILL	Little Duck Creek	LIT-16	Static Screens	X	•	•	X	NA	If not eliminating by separation, consider HRT and storage
89	CAMARGO AND EAST FORK GRATING	Little Duck Creek	LIT-16	Static Screens	X	•	•	X	NA	If not eliminating by separation, consider HRT and storage
200	EAST FORK AVE. GRATING	Little Duck Creek	LIT-16	Static Screens	X	•	•	X	NA	If not eliminating by separation, consider HRT and storage
554	STEWART AND KEN ARBRE GRATING	Deerfield Creek	LIT-17	Consolidate to Upper Deerfield Creek HRT	X	X	X	X	NA	Consider existing stormwater conduit for consolidation
555	OPP. 6735 KEN ARBRE GRATING	Deerfield Creek	LIT-17	Consolidate to Upper Deerfield Creek HRT	X	X	X	X	NA	Consider existing stormwater conduit for consolidation
556	STEWART RD. WEST REGULATOR	Deerfield Creek	LIT-17	Consolidate to Upper Deerfield Creek HRT	X	X	X	X	NA	Consider existing stormwater conduit for consolidation
557	STEWART RD. EAST REGULATOR	Deerfield Creek	LIT-17	Consolidate to Upper Deerfield Creek HRT	X	X	X	X	NA	Consider existing stormwater conduit for consolidation
66	MADISON AND REDBANK GRATING	Deerfield Creek	LIT-18	Consolidate to Lower Deerfield Creek HRT	X	X	X	X	NA	Consider consolidation with 68
68	NU-TONE PARKING LOT GRATING	Deerfield Creek	LIT-18	Lower Deerfield Creek HRT	X	X	X	X	NA	Consider consolidation with 66

X - Included in 1998 LTCP. Included in Update.
 — Not included in Update.
 • See "Other" alternatives for this CSO.
 Note - Separation refers both street-level and complete separation.
 Note - UDC consolidation may involve "Waters" issues.

EXHIBIT 5

Metropolitan Sewer District of Greater Cincinnati

CSO Public Notification Program

September 2003

The Metropolitan Sewer District of Greater Cincinnati ("MSD") has committed to developing a public notification program regarding the potential health impacts of combined sewer overflows ("CSOs"). MSD will begin to fully implement the public notification program described below by March 31, 2004.

Program Goals

The goals of the public notification program are to notify interested MSD Service Area residents when wet weather sewer overflows are likely to occur, to educate them about the health hazards associated with wet weather overflows in our streams, and to enable them to protect themselves and their families from those hazards.

MSD's public notification program is designed to meet the following criteria:

- Timely:** Enable public access to CSO information and notifications 7 days a week and 24 hours a day - whenever conditions giving rise to CSOs exist.
- Reliable:** Be as fail-safe as possible so citizens can rely on the information and take appropriate actions.
- Easy to Administer:** MSD should be able to administer the program using existing staff and resources.
- Accurate:** Information should be accurate and not mislead the public regarding the safety of recreation in urban streams.
- Targeted:** The program should be targeted primarily toward citizens who live along or use the affected streams.
- Safe:** Give people the information they need to take steps to protect themselves and their families:
1. without overreacting to the hazard; and
 2. while recognizing that there is a residual hazard from wet weather overflows, failing septs, and other bacteria sources even when CSOs are not occurring.

Predicting Wet Weather Sewer Overflows

At this time, MSD does not have a fail-safe method for predicting or monitoring combined sewer overflows on a real-time basis. There are many factors that can trigger overflows, including the length and intensity of rainfall, prior ground moisture conditions, sewer blockages, etc. The methods for predicting CSO overflows are expected to improve as MSD implements its Long-Term Control Plan Update. In the meantime, MSD will issue a CSO warning whenever its weather forecasting service predicts or records a rainfall of .25 inches or more in Hamilton County or whenever the water levels in area rivers and streams are elevated such that a CSO overflow is likely to occur. MSD dispatchers already review these forecasts to monitor weather that might affect road conditions, and MSD will likewise monitor existing river gauging stations to track river and stream levels. The warning will remain in place for 72 hours after a rainfall occurs and 72 hours after water levels in area rivers and streams have returned to normal elevation and CSO discharges related to elevated river and stream levels are known or believed to have ceased in Hamilton County.

Methods of Notification

Telephone Hotline: Citizens may call a telephone hotline, which will play a recorded message describing current conditions (see below). Signs will be posted along waterways in the CSO area to notify citizens of the telephone hotline number.

E-Mail List-server: Citizens and other organizations also may sign up to receive notices via e-mail. A sample notice is below. MSD's Public Information Office will contact news media outlets and schools to invite them to sign up for the e-mail notification list.

Publicizing the Program

Prior to March 31, 2004, MSD will send out a press release and post notices on its website to let citizens know that the hotline and e-mail list-server are available. Any citizen who asks to be on the list-server will be added to it. MSD also will notify the Hamilton County Health Department.

MSD will also work with the Hamilton County Health Department to review signage placed at public access points along the streams.

Record-Keeping

MSD will document public notification efforts in its annual reports to USEPA, Ohio EPA and ORSANCO.

DRAFT CSO PUBLIC NOTIFICATION LANGUAGE

Sample Telephone Hotline messages

(exact language of message may vary from the following, and may be updated as conditions and tools progress)

Default Message:

You have reached the Metropolitan Sewer District of Greater Cincinnati sewer overflow information line. When it rains or when water levels in area rivers and streams are elevated, the sewers in the older parts of the MSD Service Area can overflow - sending untreated rainwater and sewage into our streams. Today, weather conditions and river and stream levels indicate that sewer overflows are not likely to occur. Even so, contaminants in the streams could make you sick. Even in dry weather, it's best to avoid contact with urban streams and teach children to stay away from waterways in the combined sewer area. MSD is implementing many projects to clean our water and reduce and eliminate sewage overflows. For more information, please visit the MSD website at www.msdc.org. Thank you for calling.

Warning Message:

There is a sewage overflow warning today. You have reached the Metropolitan Sewer District of Greater Cincinnati sewer overflow information line. When it rains or when water levels in area rivers and streams are elevated, the sewers in the older parts of the MSD Service Area can overflow - sending untreated rainwater and sewage into our streams. Today, weather conditions or elevated water levels in area rivers and streams indicate a strong possibility that overflows could occur, or have occurred in the past 72 hours. Please avoid all contact with water near a combined sewer, especially after a rainstorm. Signs are posted along our waterways to identify more than 130 combined sewer overflow outfalls and areas where contact with the water could be hazardous. MSD is implementing many projects to clean our water and reduce and eliminate sewage overflows. For more information, please visit the MSD website at www.msdc.org. Thank you for calling.

Sample Email message

(exact language of message may vary from the following, and may be updated as conditions and tools progress)

*****WET WEATHER SEWER OVERFLOW WARNING TODAY*****

Thank you for signing up to receive email information about wet weather overflows in the Metropolitan Sewer District of Greater Cincinnati service area. When it rains or when water levels in area rivers and streams are elevated, the sewers in the older parts of

the MSD Service Area can overflow -- sending untreated rainwater and sewage into our streams. Today, weather conditions indicate a strong possibility that overflows could occur. After a rainstorm, you should avoid contact with streams in the combined sewer area for at least 72 hours. You also should avoid contact with streams in the combined sewer area until 72 hours after water levels in area rivers and streams have returned to normal elevation. Signs are posted along our waterways to identify wet weather overflow outfalls and areas where contact with the water could be hazardous.

Even in dry weather, it's best to avoid contact with urban streams and teach children to stay away from waterways in the combined sewer area. MSD is implementing many projects to clean our water and reduce and eliminate sewage overflows. For more information and to learn about the steps MSD is taking to reduce wet weather overflows, please visit the MSD website at www.msdbg.org.

EXHIBIT 6

WATER IN BASEMENT PREVENTION PROGRAM PLAN

I. Introduction

The Water in Basement ("WIB") Prevention Program is the component of the Metropolitan Sewer District of Greater Cincinnati's ("MSD") WIB Program designed to preclude the occurrence of building backups. Subject to the requirements of this Plan, eligible property owners whose property experiences the backup of wastewater into buildings due to inadequate capacity in MSD's Sewer System (both the combined and the sanitary portions) can receive, at no cost to the property owner, the installation of systems or devices to prevent the backup of wastewater in the future. The Prevention Program is not intended to address water in buildings caused by: 1) overland flooding not emanating from MSD's Sewer System; or 2) blockages in lateral or public sewer lines. Blockages, whether in lateral or public sewer lines, generally are temporary conditions that are better addressed by rodding and other measures that are less permanent than the systems and devices offered by this Plan.

This WIB Prevention Plan will become effective on January 1, 2004. MSD will provide WIB Prevention services to eligible buildings in a manner that is as expeditious as practicable. It is important to recognize that the speed with which MSD can implement the Prevention Program will be affected by a "ramp-up" time at the outset of this effort as MSD refines the logistics of this Program. Preliminary estimates indicate that more than 1000 properties (an amount that is less than 1% of the total connections to the system), may be eligible for this Program, but until the Program is implemented, MSD will not know for certain.

II. Public Notification regarding WIB Prevention Program

MSD will notify the public regarding the key elements of the WIB Prevention Program in the various public notices issued regarding the WIB Customer Service Program under Section II of the WIB Customer Service Program Plan attached as Exhibit 7 to the Consent Decree. The information provided will include a brief description of the Prevention Program, information about eligibility for the Program, and contact information about participation in the Program.

III. Program Initiation

There are two ways for properties to become part of the WIB Prevention Program.

First, MSD, on its own initiative, will contact property owners who, in the last five years, have experienced multiple backups of wastewater in buildings on their property as a result of inadequate capacity in MSD's Sewer System. MSD will identify the properties to be contacted by a review of its database of WIB complaints. MSD will contact property owners on a prioritized "worst first" basis.

Second, property owners wishing to explore participation in the WIB Prevention Program can call MSD to review their eligibility for the Program by calling (513) 352-4900. MSD will begin to investigate the eligibility of property owners making such requests within 30 days of the owner's call.

IV. Program Eligibility

The following guidelines will govern the eligibility of properties for participation in the WIB Prevention Program.

A. Type of WIBs Covered:

- ▶ The WIB Prevention Program only applies to buildings that have experienced the backup of wastewater due to inadequate capacity in MSD's sewer system or relative local hydraulic gradient.
- ▶ The WIB Prevention Program does not apply to building backups caused by:
 - overland flooding not emanating from MSD's Sewer System;
 - blockages in lateral or public sewer lines.

Blockages, whether in lateral or public sewer lines, generally are temporary conditions that are better addressed by rodding and other measures that are less permanent than the systems and devices offered by this Program.

B. Frequency of WIBs Covered: The WIB Prevention Program will apply to buildings that have suffered multiple reported capacity-related building back-ups in the five years immediately preceding the assessment of that building's eligibility.

C. Assessment of Eligibility: MSD will exercise its good faith reasonable engineering judgment to determine whether a property has suffered capacity-related building backups such that it is eligible for the Program. This determination will be based on a consideration of a variety of factors, which can include:

- property WIB history;
- condition of sewer system in neighborhood;
- results of a visual inspection of the neighborhood to look for signs of overland flooding;
- neighborhood WIB history;
- capacity of nearby public sewer lines; and
- topography.

Depending on the circumstances, the determination may also be based on an inspection of the private lateral and/or inspection of nearby public lines.

D. Owner Permission

- ▶ The owner of a property applying for the WIB Prevention Program will be required to give MSD written permission and approval to install building backup prevention devices on the property.
- ▶ The owner of a property applying for the WIB Prevention Program will also be required to execute an access agreement that allows MSD and its contractors to enter the property to assess the viability of, design and install backup prevention devices.

- If property owners refuse to grant MSD access to their property in connection with the WIB Prevention Program or refuse the installation of backup prevention equipment proposed by MSD based on MSD's good faith engineering judgment and an assessment conducted in accordance with Sections IV.C and V of this Plan, and subsequently experience a building backup, such refusal may be considered a failure to undertake reasonable mitigation measures under the WIB Claims Program set out in Exhibit 8 to the Consent Decree.

E. Inflow Prevention: In connection with the installation of backup prevention measures under the Program:

- properties in sanitary-only service areas must remove downspouts and storm connections from the sanitary sewer lateral completely; and
- properties in combined service areas must reroute downspouts to the discharge side of the device or system installed under this Program.

V. Prioritization of Program Candidates

Every building and every backup situation is different. Accordingly, the solution to every backup situation will be different. MSD will exercise its good faith reasonable engineering judgment to prioritize candidate properties within the Prevention Program. MSD will provide WIB Prevention services to eligible buildings in a manner that is as expeditious as practicable. It is important to recognize that the speed with which MSD can implement the Prevention Program will be affected by a "ramp-up" time at the outset of this effort as MSD refines the logistics of this Program. Prioritization determinations will be based on an assessment comprised of a variety of components, which can include:

- review of the MSD WIB database for information about backup history at the subject property and the surrounding area;
- field investigations, potentially including inspection of the private lateral and/or inspection of nearby public lines;
- consideration of simple engineering practices, such as backflow prevention devices;
- collection of information on properties in the area affected by the backups;
- interviews with property residents and/or the property owner;
- consideration of potential for and timing of proposed sewer system capacity capital improvements in the area; and
- consideration of the complexity of the WIB prevention methodology identified by MSD.

VI. Building Backup Prevention Solutions

Under the WIB Prevention Program, MSD will undertake to purchase and install, at its own cost, a variety of technologies designed to prevent future basement backups at eligible properties arising from inadequate capacity in MSD's Sewer System. Since no two buildings or building backup situations are the same, there is no single approach to preventing building backups. MSD

will exercise its reasonable good faith engineering judgment to determine the appropriate approach to building backup prevention at any particular property. This determination will be based on consideration of the various factors described in the assessments set out in Sections IV and V above, as well as consideration of the building backup technologies available on the market.

It is anticipated that the number of technologies available to MSD to address building backups will expand and change over time. MSD will consider technologies currently available at the time it performs its analysis of a particular property and select the technology that will be the most appropriate level of protection to the building backup at issue.

The technologies to be offered under this program will include backflow preventers and pumping systems. The particular technology offered at any property will depend on the assessment discussed above.

A. Backflow Preventers: MSD will purchase and install, at its own cost, backflow preventers in buildings where it is determined, in MSD's reasonable engineering judgment that backflow preventers are the appropriate solution to an eligible building backup situation. A backflow preventer is a mechanical device, installed in the lateral line, either inside the building or between the building and the main sewer that prevents water in the sewer from backing up into the building.

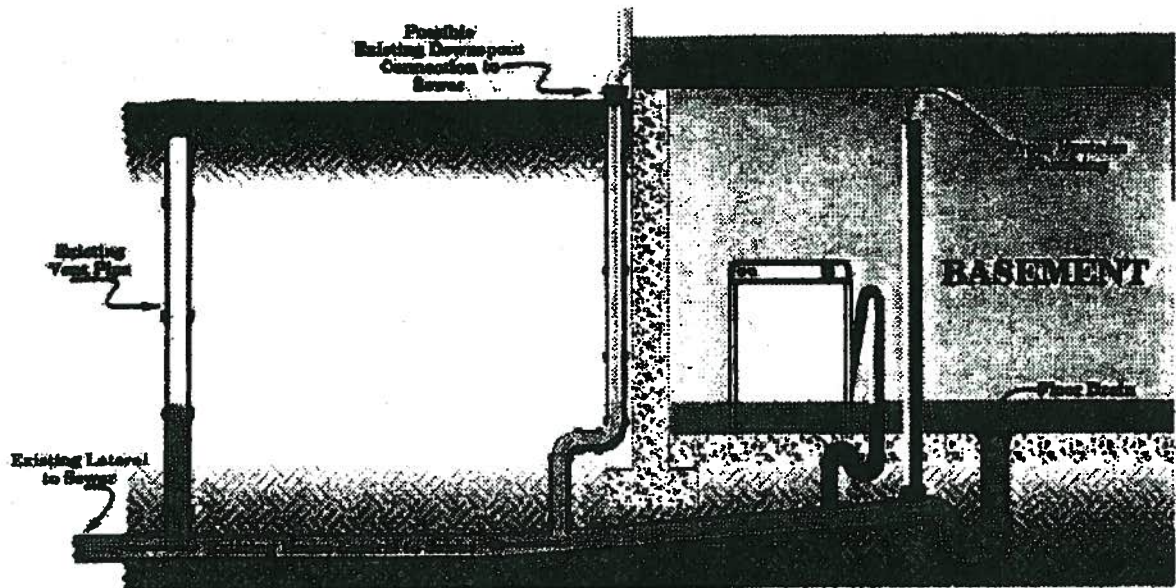
B. Pumping Systems: MSD will purchase and install, at its own cost, pumping systems in buildings where it is determined, in MSD's reasonable engineering judgment, that pumping systems are the appropriate solution to an eligible building backup situation. In general, a pumping system is installed in the lateral line and separates a building interior from the mainline sewer. In doing so, the building is isolated from the main line sewer. The wastewater generated inside the building is pumped into the mainline by the use of a motorized pump to convey wastewater into the Sewer System. Examples of the general types of pumping systems that will be offered in the WIB Prevention Program are shown in Attachment A to this Plan. The precise type and model pump to be installed will depend on MSD's reasonable good faith engineering judgment regarding the circumstances at an individual building.

C. Property Purchase: As a last resort and where a property owner is amenable, MSD will consider the purchase of properties where no feasible cost-effective alternative exists to a building backup situation. MSD does not intend for property purchases to be the remedy at a significant portion of the properties serviced by this Program.

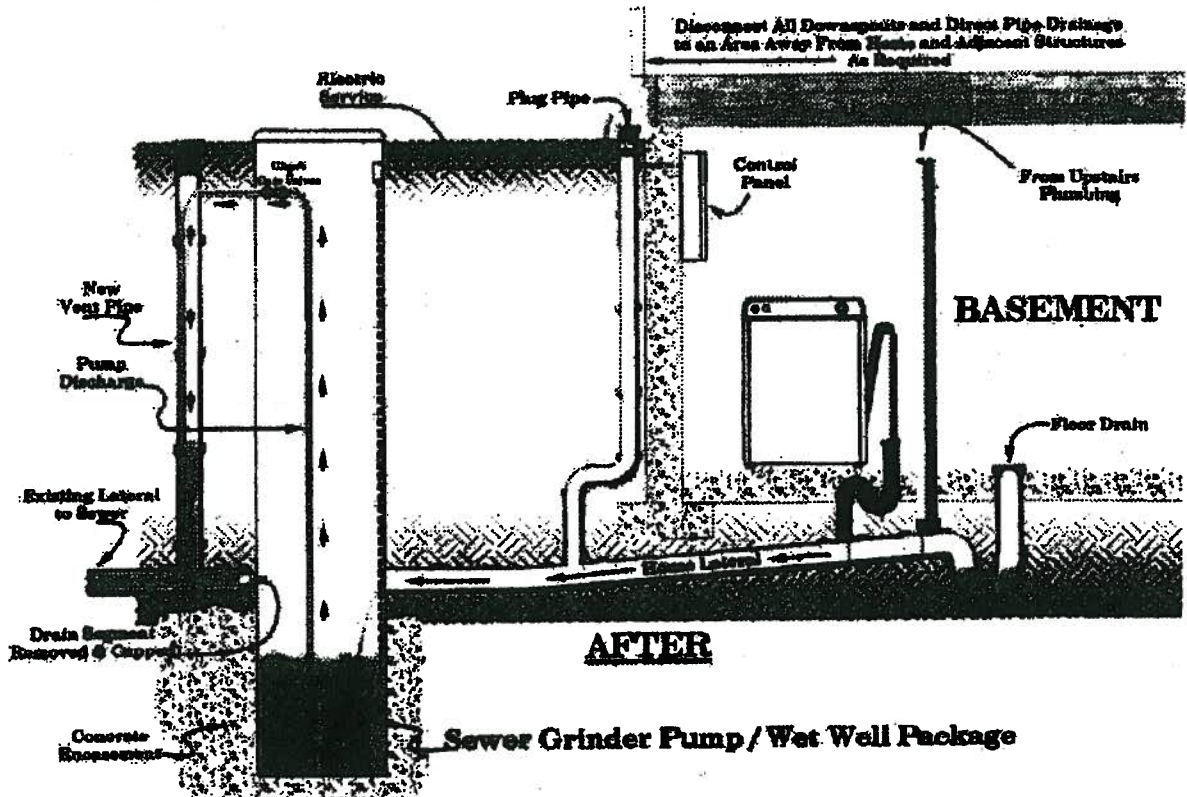
D. New Technologies: As discussed above, it is anticipated that the number of technologies available to MSD to address building backups will expand and change over time. As such, MSD believes that technologies, systems and devices in addition to those discussed above will be offered in the future under this Plan. MSD will consider technologies currently available at the time it performs its analysis of a particular property and select the technology that will be the most appropriate level of protection to the building backup at issue.

EXHIBIT 6

ATTACHMENT A



BEFORE



AFTER

**TYPICAL SEPARATE PLUMBING / GRINDER PUMP
OUTSIDE INSTALLATION**

EXHIBIT 6

ATTACHMENT A

TYPICAL EXTERIOR GRINDER PUMP INSTALLATION

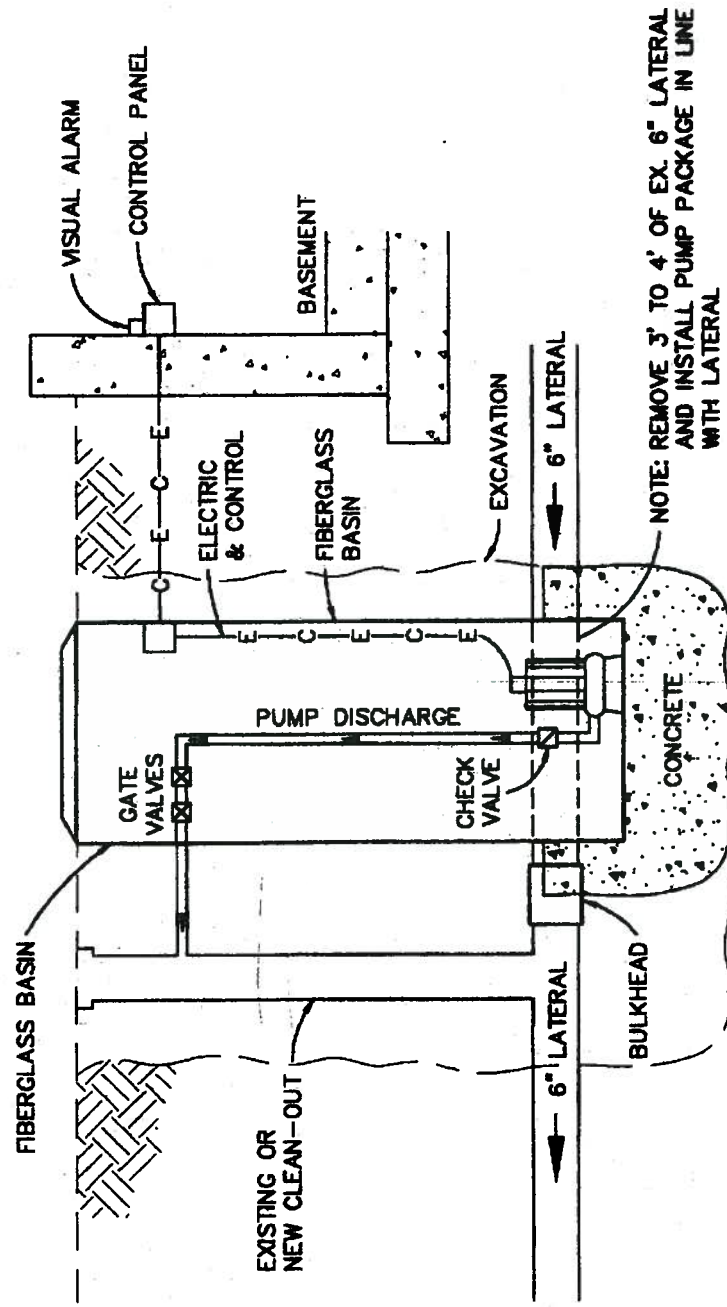


EXHIBIT 6

ATTACHMENT A

TYPICAL INTERIOR GRINDER PUMP INSTALLATION

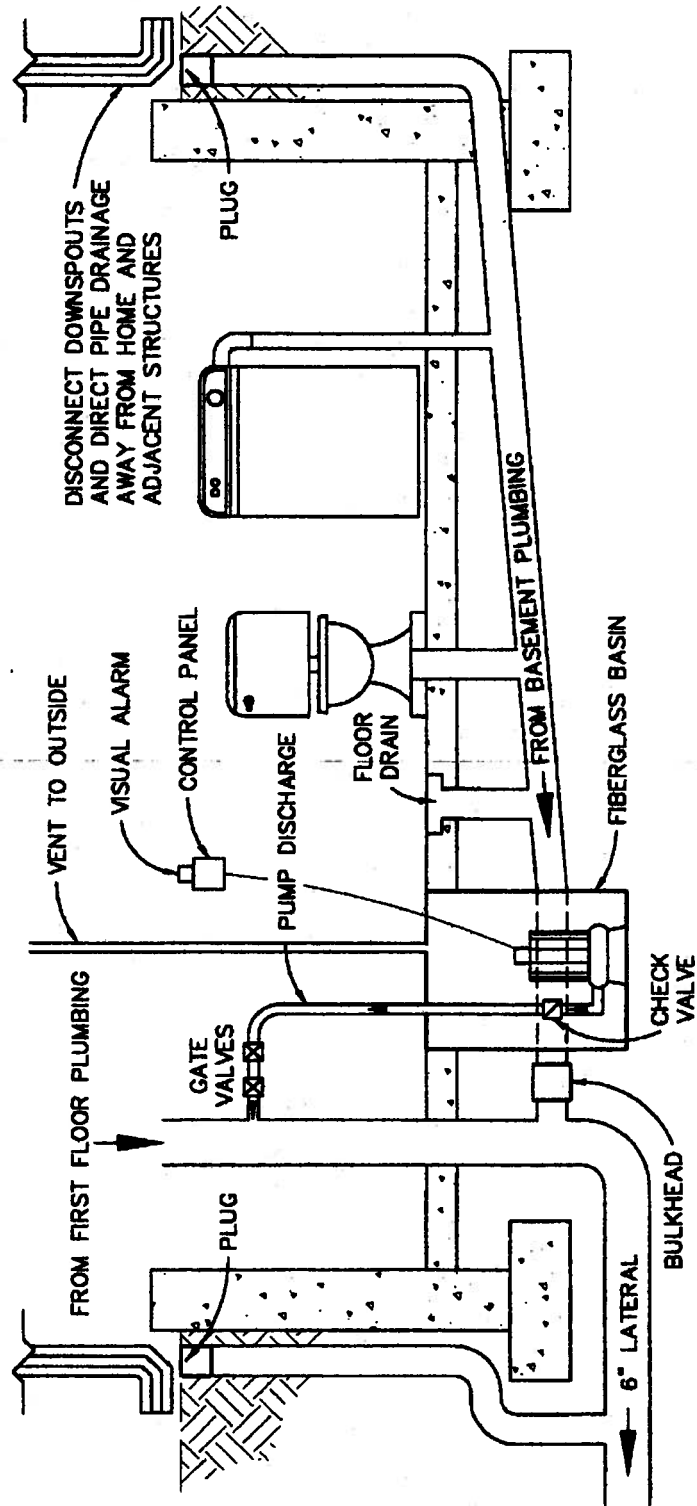


EXHIBIT 6

ATTACHMENT A

TYPICAL INTERIOR NON-CLOG SEWAGE PUMP INSTALLATION

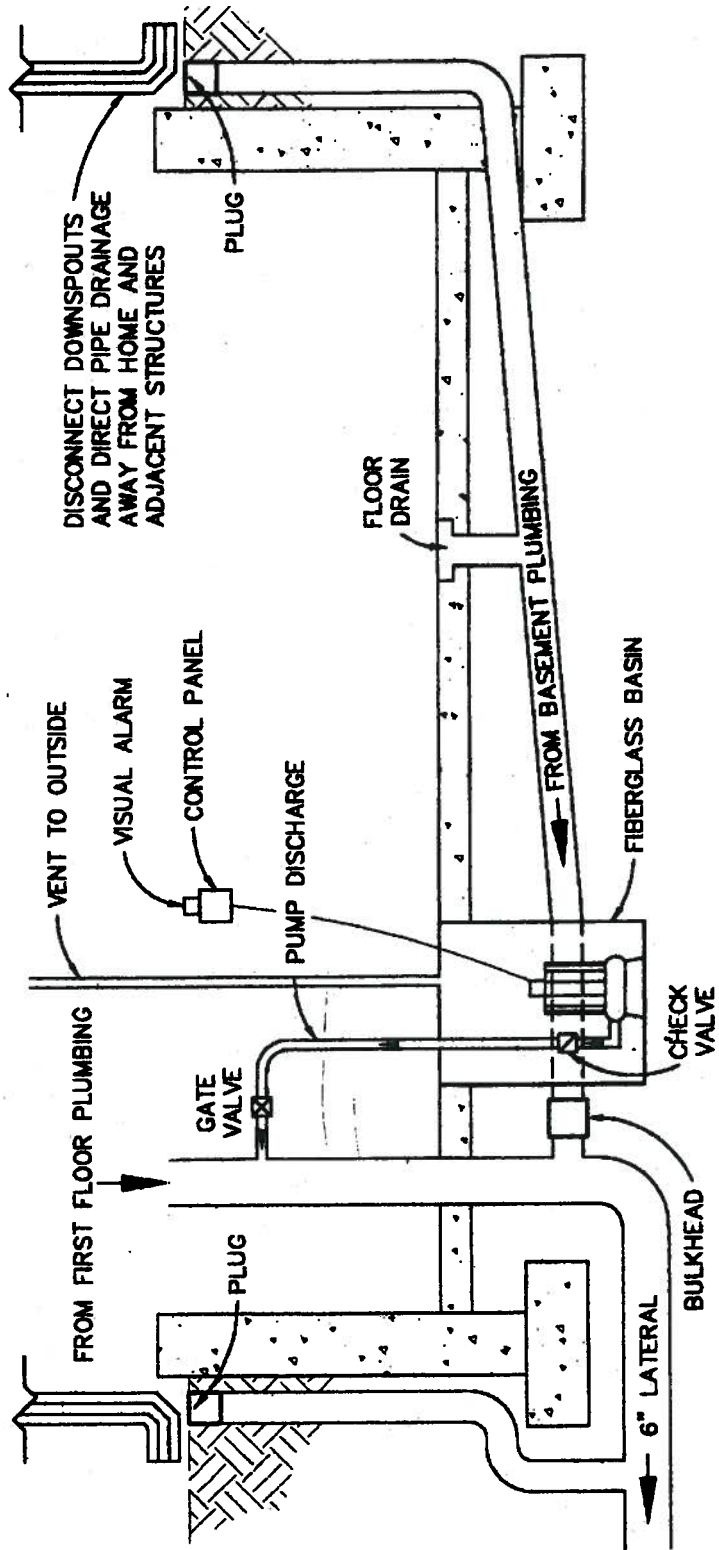


EXHIBIT 7

WATER IN BASEMENT CUSTOMER SERVICE PROGRAM PLAN

I. Introduction

The Water in Basement ("WIB") Customer Service Program is the rapid response and cleanup component of the Metropolitan Sewer District of Greater Cincinnati's ("MSD") WIB Program. The Customer Service Program is designed to clean up the immediate effects of the backup of wastewater from MSD's Sewer System (both the combined and sanitary portions) into buildings; except that the Customer Service Program is not intended to address WIBs caused by: A) overland flooding not emanating from MSD's Sewer System; or B) blockages in private laterals.

MSD intends to implement the Customer Service Program in a proactive, sensitive and customer-focused manner. The Customer Service Program will become effective on January 1, 2004.

II. Public Notification Regarding Customer Service Program

MSD will notify the public of its WIB Customer Service Program through the following means:

- by placing two advertisements each in the *Cincinnati Post* and the *Cincinnati Enquirer*, one within two weeks of the effective date of this Plan and one within three weeks of the effective date of this Plan;
- by highlighting the Program on its web site within two weeks of the effective date of this Plan;
- by issuing two press releases to local print and electronic media – one within five days of the effective date of this Plan and another 30 calendar days later;
- by sending a direct mailing to all of its current customers;
- by a direct mailing to new customers within 30 days of initiating service; and
- by including the MSD Call Center phone number with each sewer bill.

The information in these notices will describe the Program, provide the number to call for assistance and outline the information that the occupant will need to provide to the call taker. These notices will also include a brief description of the key components of the WIB Claims Process implemented in accordance with Section XIII and Exhibit 8 of the Consent Decree.

III. Call Center Operations

Occupants experiencing WIBs can request MSD service by calling the MSD Call Center at (513) 352-4900. The MSD Call Center will be staffed with actual personnel 24 hours a day, seven days a week.

IV. Initial Site Visit and Assessment

Occupants requesting MSD service for WIBs will have a customer service representative on-site within four hours, up to a maximum rate of ten requests per hour, for the first eight hours of a precipitation event, followed by a maximum rate of four requests per hour for the second eight-hour period of a precipitation event, followed by one request per hour for the third eight-hour period of a precipitation event. The rate for the second 24-hour period will be one half of the rate of the first 24-hour period. For requests received at a rate higher than those set out above, requests will be serviced in the order received as soon as practicable.

Upon arriving at the affected property, the MSD customer service representative will conduct an assessment with the occupant or property owner in an effort to determine the cause of the WIB. MSD will exercise its good faith reasonable engineering judgment to determine the cause of a WIB. This determination will be based on a consideration of a variety of factors, which can include:

- amount of precipitation;
- property WIB history;
- condition of sewer system in neighborhood;
- neighborhood WIB history;
- capacity of nearby public sewer lines;
- visual inspection of the neighborhood or property to look for evidence of overland flooding; and
- topography.

Depending on the circumstances, the determination may also be based on an inspection of the private lateral and/or inspection of nearby public lines.

If the WIB is obviously the result of overland flooding not emanating from the MSD Sewer System or the result of blockage in the occupant's lateral line, MSD will provide the owner or occupant with instructions for a safe cleanup, general preventative information, referral to the local agency responsible for overland flooding issues, and further contact information should there be questions. An example of the type of information that will be left with occupants in this situation is attached as Appendix A to this Plan. The content and form of this notice may evolve over time. Because MSD does not control overland flooding not emanating from the MSD Sewer System or control private lateral lines, MSD cannot take further action with respect to WIBs caused by such flooding.

At locations that have experienced a building backup due to inadequate capacity within the previous two years and at which MSD has not resolved the capacity issue, MSD will treat the backup as MSD's responsibility and dispense with the preliminary assessment phase of the Program. In such cases, MSD will immediately engage a contractor to proceed with cleanup of the affected building in accordance with Section V below.

At locations that have experienced building backups caused by blockages in public sewer lines, MSD will presume that the backup is MSD's responsibility and dispense with the preliminary assessment phase of the Program. In such cases, MSD will immediately engage a contractor to proceed with cleanup of the affected building in accordance with Section V below.

V. Cleanup by MSD

MSD will assist with the cleanup of the property at no charge to the occupant unless the WIB was caused by overland flow not emanating from MSD's Sewer System or a blockage in the private lateral. The determination of the cause of the WIB will be made based on the factors and assessment described in Section IV above.

The MSD customer service representative will inform the occupant of services that are available to clean up the effects of the backup and make arrangements for MSD contractors to provide such no-cost services on an expedited basis. The cleanup contractors will bill MSD directly for the services provided under this Plan.

MSD will have a cleanup contractor on-site at the affected location as soon as practicable after making arrangements with the occupant.

Specifically, the basic cleanup services to be provided by MSD's response contractors at no cost to occupants will include:

- wet vacuuming or other removal of spillage;
- mopping bare floors with cleaning solution and disinfectant;
- wiping walls with cleaning solution and disinfectant;
- flushing out and disinfecting plumbing fixtures; and
- basic carpet cleaning.

No two building backups are exactly alike. As such, MSD's response may include additional reasonably appropriate cleanup measures beyond those listed above that are appropriate to a particular situation.

In arranging to have a contractor clean up the impacts of a building backup, MSD will provide to

the affected occupant a telephone number to call with questions or complaints about the implementation of the cleanup. Such questions and/or complaints will be fielded by the MSD WIB Program Complaint Ombudsman, under the direct supervision of the MSD Director.

At the occupant's request, with the occupant's written authorization and in the occupant's presence, MSD will remove affected personal property items from the building. MSD will also arrange for any items it removes from the building to be disposed of by an authorized sanitation company at MSD's expense. MSD cannot arrange for the disposal of hazardous waste, however. Any materials damaged and removed from the building may be cataloged and photographed to document the loss.

MSD will also provide information to occupants on how to minimize future losses until system modifications can be completed to mitigate the potential for building backups caused by inadequate capacity in the Sewer System. An example of the type of information that would be provided is attached at Appendix B to this Plan. The form and content of this information sheet may evolve over time.

Prior to authorizing its contractors to begin expedited, no-cost cleanup of the effects of a basement backup, MSD's response team will review with the occupant and require the occupant to execute an access agreement that allows MSD and its contractors to enter the property and provide cleanup services.

VI. Claims Process Information

In addition, MSD's customer service representatives will provide to occupants information relating to the Water In Basement Claims Program administered by the City Solicitor's Office to pay damages to real or personal property that result from a building backup. The details of the claims process are contained in the Water In Basement Claims Program Plan found at Exhibit 8 to the Consent Decree.

An occupant's acceptance of MSD's cleanup services under this program does not constitute a release or waiver of any claims that the occupant may have against MSD for real or personal property damage caused by the basement backup. Likewise, MSD's provision of cleanup services under this program does not constitute an admission of any liability by MSD with regard to any claims that the occupant may have against MSD for real or personal property damage caused by the building backup.

EXHIBIT 7--APPENDIX A:

The following is presented as sample narrative for a customer service brochure. The content and form of the information presented may evolve over time.

Overland/Surface Water Flooding

Heavy storms can result in water in basements and other areas of buildings because of overland and surface flooding or seepage of water through wall. There is often little or no structural damage from the water, because the water inside braces the walls against the pressure of the outside water and waterlogged soil.

What should I do after the flood?

- Before entering a building, check for structural damage. Don't go in if there is any chance of the building collapsing.
- Upon entering the building, do not use matches, cigarette lighter or any other open flame since gas may be trapped inside. Instead, use a flashlight to light your way.
- Keep the power off until an electrician has inspected your system for safety.
- Flood waters can pick up sewage and chemicals from roads, farms and factories. If your home has been flooded, protect your family's health by cleaning up your house immediately; throw out foods and medicines that may have come into contact with flood water.
- Be careful walking around. After a flood, steps and floors are often slippery with mud and covered with debris, including nails and broken glass.
- Inspect foundations for cracks or other damage.
- Stay out of buildings if flood waters remain around the building.
- Do not wash mud down into the basement floor drain. Shovel mud from the basement as soon as all water has drained or has been pumped out to allow floors and walls to dry.

How and when do I pump the water out?

- Do not drain water inside the basement until most of the water on the outside of the walls has gone down. This will prevent the walls from being pushed in or the floors from heaving.
- If you have a large amount of water in your basement or if there is no basement drain, you may need to buy or rent a sump pump to get rid of the water.
- If your electrical panel is located in an area of your home that has been flooded, you will be unable to use an electric sump pump unless you use a pump driven by a 12-volt auto battery. A gasoline engine pump may be used if exhaust can be vented to the outside.

- Start pumping water out of your basement if the water inside is higher than the flood water level outside. You may need a measure to determine this.
- Stop pumping when the two water levels become equal.
- Service damaged septic tanks, cesspools, pits, and leaching systems as soon as possible. Damaged sewage systems are health hazards.

The safety of you and your family should come first.

- Turn on a battery-powered radio or television to get the latest weather forecasts and flash flood warning. Listen for warnings and emergency instructions.
- Get your preassembled emergency supplies.
- Avoid walking through any flood waters. If it is moving swiftly, even water six inches deep can sweep you off your feet.
- Protect yourself when removing water and cleaning your basement by wearing rubber boots and gloves.
- Wash clothes and other items that come into contact with the backup water with soap and water.
- Wash your hands with soap and water.

Use caution when entering the building.

- Wear sturdy shoes and use battery-powered lanterns or flashlights when examining the building.
- Examine wall, floors, doors, and windows to make sure that the building is not in danger of collapsing.
- Watch out for animals, and snakes, that may have come into your home with the flood waters. Use a stick to poke through debris.
- Flood waters may contain flammable or explosive materials coming from upstream. If you think there may be flammable or explosive materials in the structure vacate the structure and call 911.

Take pictures of the damage.

- Take pictures of the basement and other areas affected.
- Take pictures of the contents for damage and insurance claims.

Inspecting utilities.

- **Check for gas leaks** – If you smell gas or hear a blowing or hissing noise, open a window and quickly leave the building. Turn off the gas at the outside main valve if you can and call the gas company from a neighbor's home. If you turn off the gas for any reason, it must be turned back on by a professional.
- **Look for electrical system damage** – If you see sparks or broken or frayed wires, or if you smell hot insulation, turn off the electricity at the main fuse box or circuit breaker. If you have to step in water to get to the fuse box or circuit breaker, call the electric company or an electrician.

- **Check for sewage and water line damage** – If you suspect that the house's plumbing has been damaged, avoid using the toilets and call a plumber. If water pipes are damaged, contact the water company and avoid using water from the tap. You can obtain safe water by melting ice cubes.

How do I avoid shock hazards?

- Be careful before using any electric appliance in a house that has been flooded.
- Never turn on wet electric appliances because they may cause an electric shock, overheat, or start a fire.

Flood mitigation actions check list.

The following are actions that you can take to mitigate the damage caused by flooding.

- Store important documents and irreplaceable personal objects (such as photographs) where they will not get damaged.
- Elevate or relocate furnaces, hot water heaters and electrical panels above the level of potential flooding.
- Provide openings in foundation walls that allow flood waters in and out, thus avoiding structural collapse.
- For drains, toilets, and other sewer connections, install backflow valves or plugs to prevent flood waters from entering the building.
- Buy and install sump pumps with backup power.
- Move business inventory that may be flooded; reduce inventory that may be flooded, if possible elevate, relocate, and otherwise protect equipment that can be flooded.
- Throw away food – including canned goods – that has come in contact with flood waters.
- Identify stored hazardous materials or other chemicals that could be flooded; and relocated or elevate these.

Please note that cleanup from overland/surface water flooding not coming from the Metropolitan Sewer District's collection system is not the responsibility of the Metropolitan Sewer District; it is the responsibility of the property owner or resident. If you have any questions or need more information on cleanup: 1) if you live in the City of Cincinnati, you may call the City of Cincinnati Health Department staff at 357-7392 during office hours; 357-7435 after 5:00 p.m. or weekends; 2) if you live in Hamilton County, you may call the Hamilton County Board of Health at 946-7840 during office hours; 946-7878 after 4:30 p.m. or weekends.

If you have questions about the sewer system, you may contact the Wastewater Collection Division at 352-4900, between 7:30 a.m. and 4:00 p.m., Monday through Friday. If you have an emergency situation, after hours on a weekday or weekend, call 244-5500 or 911.

Source: King County (Seattle), American Red Cross, Federal Emergency Management Agency and MSD.

EXHIBIT 7--APPENDIX B:

The following is presented as sample narrative for a customer service brochure. The content and form of the information presented may evolve over time.

Water In Basements (WIBs)

Heavy storms, blockages or breakdowns in sewer pipes, and other events can cause sewage to backup into basements. The water contains sewage, even when diluted by storm water. Children and pets should be kept out of the flooded areas until the areas have been cleaned.

Sewage has the potential of carrying microorganisms, which may cause diarrhea and other diseases, such as Hepatitis A, Salmonella, and Giardia, all of which can be killed readily with household disinfectants. The sewer odors may be unpleasant, but are not harmful.

Safety First – Please use caution when entering the basement.

- Be careful walking around. Floors and steps are often slippery.
- Protect yourself when removing water and cleaning your basement by wearing rubber boots and gloves.
- Wash clothes and other items which come into contact with the backup water with soap and water.
- Wear sturdy shoes and use battery-powered lanterns or flashlights when examining the basement.
- Wash your hands with soap and water.

Inspect the area for hazards.

- Broken or leaking gas lines.
- Flooded electrical circuits.
- Submerged furnaces or electrical appliances.

Inspecting utilities for damage.

- **Check for gas leaks** – If you smell gas or hear a blowing or hissing noise, open a window and quickly leave the building. Turn off the gas at the outside main valve if you can and call the gas company from a neighbor's home. If you turn off the gas for any reason, it must be turned back on by a professional.
- **Look for electrical system damage** – If you see sparks or broken or frayed wires, or if you smell hot insulation, turn off the electricity at the main fuse box or circuit breaker. If you have to step in water to get to the fuse box or circuit breaker, call the electric company or an electrician.

Take pictures of the damage.

- Take pictures of the basement and other areas affected.
- Take pictures of the contents for damage and insurance claims.

How should I clean the basement?

- Remove silt and dirt stains by rinsing concrete walls and masonry foundation walls with a high-pressure hose.
- If stains remain on the walls, scrub them with a stiff bristle brush and household detergent. Begin at the top and work down. Rinse often with clear water.
- Start drying the basement as quickly as possible in order to minimize wood decay or growth of mold.
- Open all doors and windows to allow the moisture to flow outside.
- Buy or rent a fan or dehumidifier to speed up the drying process.
- If you are sensitive to mold or mildew, wear a mask or respirator containing an appropriate filter.
- Before removing wallboard, paneling and insulation, it is recommended that a professional cleaning contractor be consulted.

How do I clean up and get rid of odors?

- Mop concrete floor and walls with a bleach solution (three-fourths cup of household bleach to a gallon of water) or other household disinfectants.
- Rinse and dry after five minutes.
- Open windows when applying the bleach solution.
- Place a lump of dry charcoal in an open tin/metal container to absorb odors.
- **Do not use ammonia.**
- **It is important to clean thoroughly and rinse a surface before disinfecting.**
- Area should be air dried thoroughly after disinfecting.

Available cleanup service.

MSD has a cleanup program that will assist in the cleanup of the water in your basement unless the backup is caused by a blockage in a private lateral line or is the result of overland flooding not coming from MSD's sewer system. This program is at no charge to the resident.

The MSD customer service representative will provide you with specific information about the service. The customer service representative will make arrangements for MSD contractors to provide the service on an expedited basis. The cleanup contractors will bill MSD directly for the services provided under this Plan.

Specifically, the basic cleanup services to be provided by the MSD's response contractors will include:

- wet vacuuming or other removal of spillage;
- mopping bare floors with cleaning solution and disinfectant;

- wiping walls with cleaning solution and disinfectant;
- flushing out and disinfecting plumbing fixtures; and
- basic carpet cleaning.

No two basement backups are exactly alike. Additional service will be evaluated on a case by case basis.

At the resident's request and with the resident's written authorization, MSD:

- Will remove affected personal property items from the basement.
- Will also arrange for any items it removes from the basement to be disposed of by an authorized sanitation company at MSD's expense.
- MSD cannot arrange for the disposal of hazardous waste, however.

The resident should take pictures, list and describe items removed from the basement.

Prior to authorizing its contractors to begin expedited, no-cost cleanup of the effects of a basement backup, MSD's customer service representative will review with the resident the necessary access agreement required to allow MSD and its contractors to enter the property and provide cleanup services.

Claims assistance

In addition, MSD's customer service representatives will assist residents in filing claims with the City Solicitor's office for damages to real or personal property which resulted from a basement backup.

Flood mitigation actions check list.

The following are actions that you can take to mitigate the damage caused by flooding.

- Store important documents and irreplaceable personal objects (such as photographs) where they will not get damaged.
- Elevate or relocate furnaces, hot water heaters and electrical panels above the level of potential flooding.
- For drains, toilets, and other sewer connections, install backflow valves or plugs to prevent flood waters from entering the building.
- Buy and install sump pumps with backup power.
- Move business inventory that may be flooded; reduce inventory that may be flooded, if possible elevate, relocate, and otherwise protect equipment that can be flooded.
- Throw away food – including canned goods – that has come in contact with flood waters.
- Identify stored hazardous materials or other chemicals that could be flooded; and relocated or elevate these.

If you have any questions or need more information on cleanup:
1) if you live in the City of Cincinnati, you may call the City of

Cincinnati Health Department staff at 357-7392 during office hours; 357-7435 after 5:00 p.m. or weekends; or 2) if you live in Hamilton County, you may call the Hamilton County Board of Health at 946-7840 during office hours; 946-7878 after 4:30 p.m. or weekends.

If you have questions about the sewer system, you may contact the Wastewater Collection Division at 352-4900, between 7:30 a.m. and 4:00 p.m., Monday through Friday. If you have an emergency situation, after hours on a weekday or weekend, call 244-5500 or 911.

Source: King County (Seattle), American Red Cross, Federal Emergency Management Agency and MSD.

EXHIBIT 8

WATER IN BASEMENT CLAIMS PROCESS PLAN

I. Introduction

The Water in Basement ("WIB") Claims Process is the damages reimbursement component of the Metropolitan Sewer District of Greater Cincinnati's ("MSD") WIB Program. Subject to the requirements of this Plan, occupants who incur damages as a result of the backup of wastewater into buildings due to inadequate capacity in MSD's Sewer System (both the combined and the sanitary portions) can recover those damages. This plan also provides a means for occupants to recover damages arising from backups that are the result of MSD's negligent maintenance, destruction, operation or upkeep of the Sewer System. The Claims Process is not intended to address water in buildings caused by overland flooding not emanating from MSD's Sewer System or caused by blockages in occupants' own lateral sewer lines.

This WIB Claims Process Plan will become effective on January 1, 2004 for covered backups occurring on or after that date.

II. Public Notification regarding WIB Claims Process

MSD will notify the public regarding the key elements of the WIB Claims Process in the various public notices issued regarding the WIB Customer Service Program under Section II of the WIB Customer Service Program Plan attached as Exhibit 7 to the Consent Decree. The information provided will include a brief description of the Claims Process and information about how to obtain and submit claim forms.

III. Claim Initiation

There are three steps to initiating a claim for reimbursement of damages under this Plan.

First, an occupant who has incurred property damage as a result of a basement backup that it believes is MSD's responsibility under this Plan must notify MSD within 24 hours of the time that the occupant discovers the WIB. Such notification can be made by calling the MSD Call Center at (513) 352-4900. Section III of the WIB Customer Service Program Plan attached at Exhibit 7 of the Consent Decree establishes the operational parameters of the Call Center.

Second, the occupant must allow MSD personnel and/or contractors reasonable access to the affected property to investigate the cause of the WIB.

Third, the occupant must file a claim form. This form will be given to customers who request cleanup assistance under the WIB Customer Service Program implemented under Section XIII

and Exhibit 7 of the Consent Decree. Claim forms will also be provided to occupants who request them from MSD at (513) 352-4900. Additionally, claim forms will be available at MSD's internet site: www.msdbg.org. The content of this form may evolve over time.

IV. Claim Eligibility

The following guidelines will govern the reimbursement of damage claims submitted under this Plan.

A. Scope of WIBs Covered.

1. The Claims Process will only reimburse damages arising from basement backups caused by inadequate capacity in MSD's Sewer System or that are the result of MSD's negligent maintenance, destruction, operation or upkeep of the Sewer System. MSD will not pay claims for damages caused by WIBs arising from blockages in occupants' lateral lines or arising from overland flooding not emanating from MSD's Sewer System.

2. MSD will exercise its good faith reasonable engineering judgment to determine the cause of a WIB. This determination will be based on a consideration of a variety of factors, which can include:

- amount of precipitation;
- property WIB history;
- condition of sewer system in neighborhood;
- results of a visual inspection of the neighborhood to look for signs of overland flooding;
- neighborhood WIB history;
- capacity of nearby public sewer lines; and
- topography.

Depending on the circumstances, the determination may also be based on an inspection of the private lateral and/or inspection of nearby public lines.

3. At locations that have experienced a basement backup due to inadequate capacity within the previous two years and where MSD has not resolved the capacity issue, MSD will treat that backup as MSD's responsibility and dispense with the assessment phase of the Claims Process. In such cases, MSD will pay appropriately documented claims without further investigation as to the cause of the WIB incident. The same presumption and expedited process will apply to locations that experience basement backups caused by blockages in public sewer lines of which MSD had notice and opportunity to clear, but did not clear.

B. Damages will be paid for losses to real and personal property that can be documented. For that reason, claimants must, as a condition to the payment of any claim, cooperate with MSD's efforts to investigate and document the losses that have occurred as a result of a WIB

incident. Claimants will be asked to submit copies of any documents that they may have that substantiate the existence and/or extent of their damages. Among other measures taken to document losses, MSD may: prepare an inventory of damaged items, take photographs of the building or property present there during or after the WIB incident or the cleaning process, request information about the value, type, age or other characteristics of items for which damages are claimed, and require the owner or occupant to submit documentation about damaged items. The property owner or occupant must provide MSD reasonable access to the property for the purpose of documenting losses to personal property.

C. Claimants must notify MSD regarding the WIB within twenty-four hours of the time that the claimant discovers the WIB.

D. Claimants must allow MSD personnel and/or contractors reasonable access to the affected property to investigate the cause of the WIB.

E. Claims will be subject to the limitations on Ohio political subdivision liability imposed by ORC 2744.05.

V. Future Claims Mitigation

MSD may request in writing of occupants whom it has compensated under this Plan to undertake reasonable mitigation measures, which can include:

- A. allowing MSD to install, at MSD's expense, a backflow prevention device and agreeing to maintain such backflow prevention device in working order;
- B. refraining for two years from storing personal property below a previously documented high water line or less than two feet above the basement floor; or
- C. refraining for two years from installing new carpet or drywall below a previously documented high water line or less than two feet above the basement floor.

If MSD makes such a request, and the occupant refuses and a WIB subsequently occurs, the extent to which the occupant complied with the request may be a factor that is considered by the Office of the Solicitor for the City of Cincinnati in determining the amount to pay for any claims pertaining to the subsequent WIB.

VI. Claims Processing

Claims will be made to the Office of the Solicitor for the City of Cincinnati. The Office of the Solicitor will make a final written decision regarding payment of claims made under this Plan within 60 days of receiving such claims. Any decision denying a claim in full or resulting in an offer of payment of an amount less than the full amount of the claim will include pertinent information regarding the process for pursuing the claim in Ohio State court.

EXHIBIT 9

Supplemental Environmental Projects Plan

I. Introduction

Defendants shall perform the streambank stabilization, leachate control, greenway creation, and in-stream restoration projects described below. These Supplemental Environmental Projects (SEPs) shall be performed using sound, generally accepted engineering practices; in a manner consistent with industry standards, regulatory requirements and natural channel design techniques; and consistent with the goal of maximizing environmental benefits. Nothing herein shall be construed as relieving Defendants of the duty to comply with all federal, state and ORSANCO requirements that may be applicable to performance of these projects, including the duty to apply for and comply with any federal or state permitting requirements.

Defendants shall complete, and submit to U.S. EPA/Ohio EPA/ORSANCO, documents containing the detailed design for each of the project components described in Sections II - IV below at least 6 months before Defendants plan to commence construction on the specific component. If Defendants are required to apply for any federal or state permits as part of implementing these projects, Defendants also shall provide copies of all such permit applications to U.S. EPA/Ohio EPA/ORSANCO. If Defendants are required to submit notifications or other documents pursuant to the terms of any federal or state permits that are applicable to these projects, Defendants also shall provide copies of all such notifications and other documents to U.S. EPA/Ohio EPA/ORSANCO. Defendants shall send all such copies of applications, notifications or other documents to U.S. EPA/Ohio EPA/ORSANCO on the dates that Defendants submit the originals of those applications, notifications or other documents to the appropriate federal and/or State regulatory authorities in accordance with federal or State law. All documents described in this paragraph shall be submitted under this Consent Decree to U.S. EPA/Ohio EPA/ORSANCO for review only, although U.S. EPA/Ohio EPA/ORSANCO may provide comments to Defendants based upon their review of those documents. Submission of any documents to U.S. EPA/Ohio EPA/ORSANCO under the terms of this Consent Decree shall not be in lieu of submission of such documents to the appropriate federal and/or State regulatory authorities in the manner proscribed by law for submission of such documents.

II. Caldwell Seymour Greenway and Ecological Restoration Project

The proposed streambank stabilization project to be implemented with SEP funds is designated as Reach 1, located between North Bend Road and Seymour Avenue, and Reach 2, located between the Seymour Avenue Bridge and the confluence of the Mill Creek with the Seymour Creek within the Caldwell Seymour (CS) area of the City of

Cincinnati (see attached maps). It consists of approximately 3,850 ft of stream length stabilization using a method known as Soil Bioengineering. The SEP funds will be used to provide geotechnical investigations, hydrologic/hydraulic studies, and soil bioengineering design and construction.

According to a 2002 physical inventory and assessment of streambanks, the Mill Creek (from the Caldwell parks upstream of North Bend Road downstream to Center Hill Road) suffers from streambank erosion from a number of natural and anthropomorphic causes. In addition, there is a major erosion problem along Seymour Creek at its confluence with Mill Creek. Generally, the streambanks have steep vertical slopes ranging from four feet to over fifteen feet high. There is an overall vegetative cover of about 30% to 50%. Streambank erosion affects the toe, lower bank, upper bank and whole bank. The erosion is contributing to water quality problems including nutrient pollution, sedimentation, total suspended solids and turbidity. Sedimentation is adversely affecting aquatic life by depleting oxygen and smothering aquatic habitat. In areas where riparian vegetation is sparse, stormwater runoff conveys nonpoint source pollutants and causes adverse physical impacts to the river system. Unstable streambanks must be addressed prior to, or in tandem with, other ecological restoration activities including riparian corridor and floodplain reforestation and greenway trail development.

Soil bioengineering is based on sound engineering and an understanding of river ecology, hydrology/hydraulics, and natural channel design techniques relying heavily on the use of vegetation to stabilize streambanks and may incorporate a rock toe and other traditional engineering treatments when necessary. Such systems are environmentally sustainable because they are self-maintaining and provide significant environmental benefits, including habitat and food sources for wildlife and improvements in water quality. All of these multiple benefits can strengthen and support the City's Mill Creek Greenway/Ecological Restoration Program and community development goals in this region of the city and maximize the value of the MSD SEP investment.

The cost estimate for construction includes labor, materials and equipment for excavation and earth moving; toe protection installation (full length); grade control (low head weirs in some sections); low flow channel construction (in some areas); compound channel (in some sections); upland riparian bank stabilization and restoration using soil bioengineering methods.

The scope and estimated costs of this streambank stabilization and greenway project are:

1. Streambank Restoration in Mill Creek, Reach 1: North Bend Road Bridge to Seymour Avenue Bridge -- Estimated Subtotal: \$1,600,000

Geotechnical investigation (for entire 1.3 miles)

Hydrology/hydraulics study (for entire 1.3 miles)

Soil bioengineering design (for River Reach 1-includes 2 years of monitoring)

Reach 1 soil bioengineering installation (1,300 linear feet Mill Creek, affecting 2,600 linear feet of streambanks)

MCRP environmental services consulting contract: \$60,000

2. Streambank Restoration in Mill Creek Reach 2A: Seymour Avenue Bridge to Seymour Creek Confluence -- Estimated Subtotal: \$2,100,000
 - Soil bioengineering design (includes two years of monitoring)
 - Reach 2A soil bioengineering installation (2,550 linear feet Mill Creek, affecting 5,100 linear feet of streambanks)
3. Caldwell Seymour Greenway Trail -- Estimated Subtotal: \$1,050,000
 - Final design, engineering and construction supervision
 - Trail construction (5,808 linear feet @ \$77.50/linear feet + 6% contingency)
 - Riparian restoration/landscaping
 - Fencing
 - (New) Greenway buffer between Center Hill Landfill, Seymour Creek and Mill Creek and trail extension to Center Hill Road

Total Estimated Cost: \$4,750,000

SCHEDULE

1. Streambank Restoration in Mill Creek, Reach 1: North Bend Road Bridge to Seymour Avenue Bridge--- detailed design and construction to be completed within 42 months of entry of the Consent Decree. The parties recognize that Defendants may need to request extension to this schedule in light of delays in permit or easement processes controlled by third parties, which extension will not be unreasonably denied.
2. Streambank restoration in Mill Creek Reach 2A: Seymour Avenue Bridge to Seymour Creek Confluence--detailed design and construction to be completed within 24 months of the completion of Item 1 of this SEP. The parties recognize that Defendants may need to request extension of this schedule in light of delays in permit or easement processes controlled by third parties, which extension will not be unreasonably denied.
3. Caldwell Seymour Greenway Trail--detailed design and construction to be completed within 18 months of completion of Items 1 & 2 of this SEP. The parties recognize that Defendants may need to request extension of this schedule in light of delays in permit or easement processes controlled by third parties, which extension will not be unreasonably denied

III. In-Stream Habitat Restoration Project

Local environmental activists have identified the need to restore in-stream habitat via structural changes to the Mill Creek's channel/bed. Two such environmental projects have been identified and proposed in the lower reach of Mill Creek. This effort has been supported/encouraged by numerous local stakeholders including Ohio Kentucky and Indiana Regional Council of Governments (OKI), Dr. Michael Miller (University of

Cincinnati), Dr. Stan Hedeon (Xavier University), the Mill Creek Watershed Council and the Mill Creek Restoration Project.

A. Hopple Street Project

Hopple Street Interceptor Sewer is an interceptor sewer crossing located downstream of the Hopple Street Viaduct. This interceptor sewer crossing is fully encased in concrete. There is a failure in the bank allowing the majority of flow to pass over the pipe on the western bank. There is a large gravel bar located along the western bank just downstream. This works as a barrier to fish migration.

The goals of this project will be to redirect the main flow of the stream back to the center of the channel and to allow the flow to dissipate energy across a structure on the backside of the interceptor sewer, thus preventing the creation of plunge pool while providing numerous benefits. Newbury riffle and bank stabilization are the proposed action.

B. Gest Street Project

Low Water Crossing in the vicinity of the Gest Street Water Reclamation Facility is an abandoned road across Mill Creek. Severe bank erosion is a major feature of this location. The removal of this structure will enhance flow, reduce erosion, and provide aquatic habitat. Proposed action is removal of crossing road and bank stabilization.

This project accomplishes the following goals:

- Removes a significant barrier to fish migration up the Mill Creek, thus improving species propagation.

- Reoxygenation of water in the Creek via Newbury Riffle installation that will improve overall habitat and increase fish and aquatic biology diversification and health.

- Removes a barrier from the streambed that impedes recreational use and human exposure to the Creek.

- Extends the green space along the creek in accordance with the Mill Creek Restoration Project's Greenway Master Plan.

- Improves the environmental condition in an environmental justice community.

Total Estimated Cost: \$250,000.

SCHEDULE

1. Hopple Street Interceptor/Newbury Riffle---detailed design and construction to be completed within 24 months of entry of the Consent Decree. The parties recognize that Defendants may need to request extension of this schedule in light of delays in permit or easement processes controlled by third parties, which extension will not be unreasonably denied.
2. Gest Street Low Water Crossing removal---detailed design and construction to be completed within 24 months of entry of this Consent Decree. The parties recognize that Defendants may need to request extension of this schedule in light of delays in permit or easement processes controlled by third parties, which extension will not be unreasonably denied.

IV. Village of Elmwood Place Waste Facility Remediation

The Village of Elmwood Place Waste Facility is a six acre landfill that is owned and historically was operated by the Village of Elmwood Place. The landfill ceased operations in the mid-1960s. The landfill is located northeast of the junction of Este Avenue and Center Hill Road in Cincinnati, Hamilton County, Ohio, and it has approximately 1000 feet of frontage on the Mill Creek, a major urban waterway, which is the focus of significant local restoration efforts.

The Village of Elmwood Place has little or no control measures in place at the landfill. As such, garbage protrudes from the bank of the landfill into the Mill Creek, and leachate from the landfill flows to the Mill Creek. Although the Village of Elmwood Place has expressed willingness to clean up their landfill property and bring it into regulatory compliance, it does not have the financial capability to perform the needed assessment and remedial work. The Village of Elmwood is interested in restoring this property as green space to establish a green buffer between any new development in the area and the Mill Creek. This plan is consistent with the goals of the Mill Creek Restoration Project and the Mill Creek Watershed Council.

At a minimum, in order to abate continuous pollution from the landfill to the Mill Creek, the landfill bank bordering the Mill Creek must be stabilized, and a leachate collection system must be installed. Performing this work will accomplish the following goals:

Facilitates the environmental assessment of the landfill and the creation of a remedial action plan for the Elmwood Place landfill.

Abates pollution emanating from the Elmwood Place landfill to the Mill Creek.

Assists in extending green space along the bank of the Mill Creek in accordance with the Mill Creek Restoration Project's Greenway Master Plan.

Allows the abatement of potential human health threats in an environmental justice community.

The bank stabilization and leachate collection system would be similar to that installed by the City of Cincinnati at the Center Hill Landfill. The scope and estimated costs for this project would be:

1. Stabilization of bank of landfill along Mill Creek, using bioengineering: \$300,000.
2. Installation of leachate control system: \$55,000.

Total Estimated Cost: \$355,000.

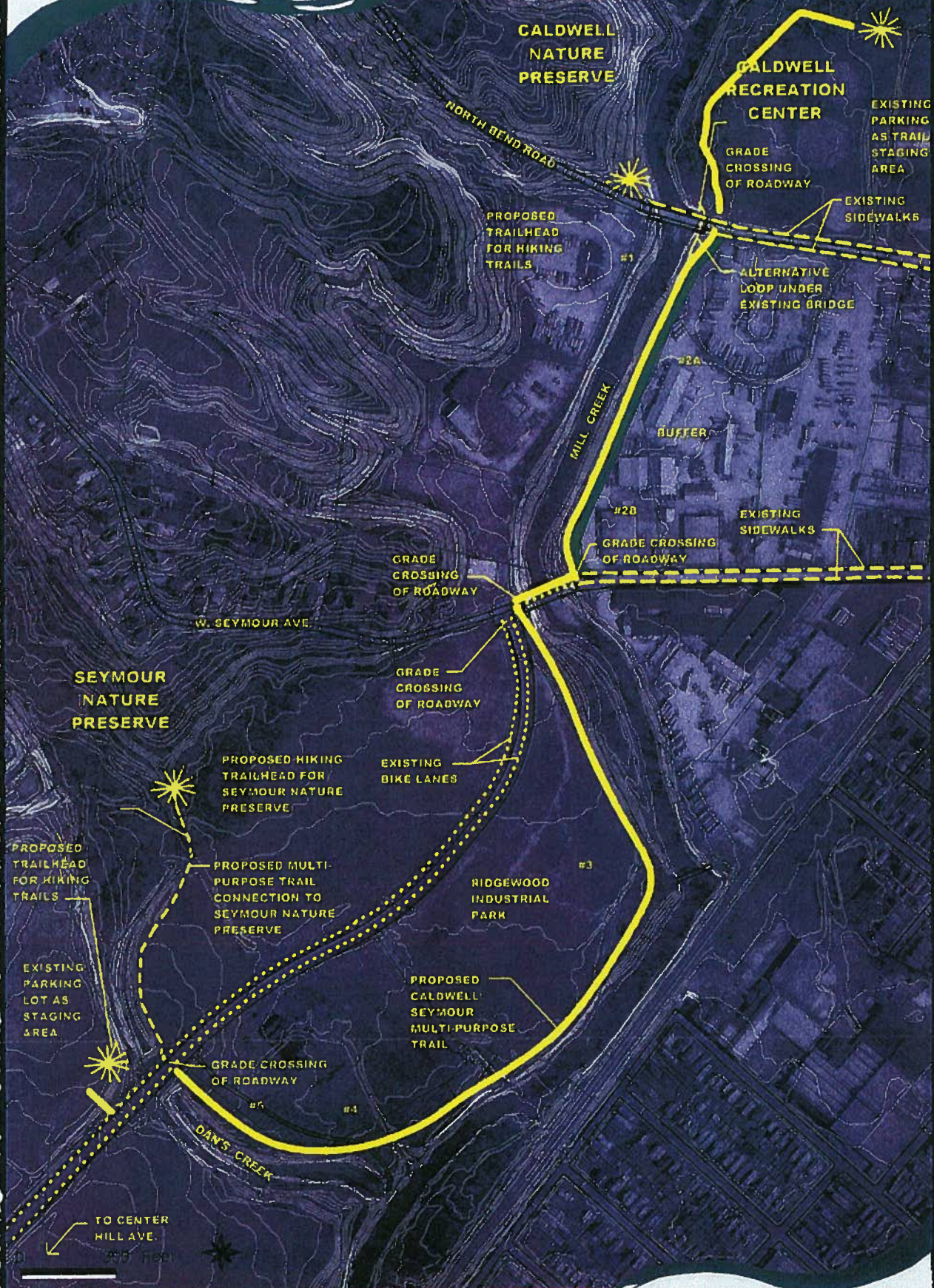
SCHEDULE

Bank stabilization and installation of leachate control---detailed design and construction to be completed within 24 months of the entry of this Consent Decree. The parties recognize that Defendants may need to request extension of this schedule in light of delays in permit or easement processes controlled by third parties, which extension will not be unreasonably denied.

V. Additional Projects

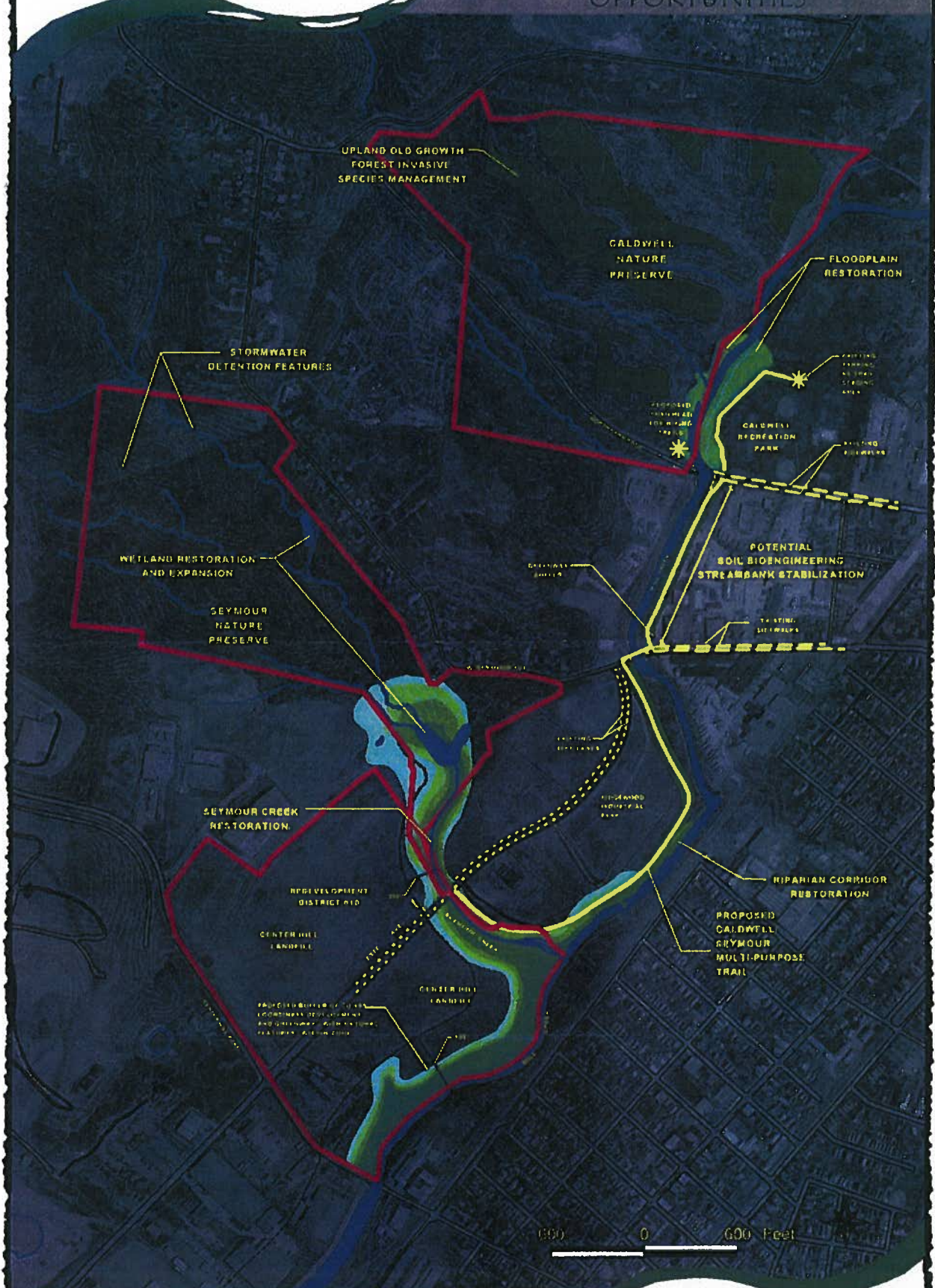
Defendants expect to spend at least \$5,300,000 performing the projects described above. Defendants may perform additional streambank stabilization, greenway creation or in-stream restoration projects that are consistent with the goal of maximizing environmental benefits in or to the Mill Creek, provided that Defendants: (1) notify U.S. EPA/Ohio/ORSANCO in writing of their intention to perform such additional projects as soon as Defendants determine that they intend to perform such additional projects and include a detailed description of the project that they intend to perform. Upon approval of the proposed project(s) by U.S. EPA/Ohio EPA/ORSANCO, Defendants shall comply with the provisions described in Section I of this Plan and complete detailed design and construction of such additional projects, as expeditiously as practicable, but no later than 36 months following completion of the projects specified above in Sections II and III of this Plan.

CALDWELL/SEYMOUR GREENWAY TRAIL



CURRENT PLAN

Exhibit 9 - Map A



MARCH 27, 2002

Exhibit 9 - Map B

Mill Creek Restoration Project
 Monroe Nature Park
 Part of Greater Cincinnati Development Authority
 TRU Environmental Resources Management Center
 ODOT • Ohio EPA • ODNR
 City of Cincinnati